**3GPP TSG-RAN WG5 Meeting # *R5-212565r3***

**Electronic Meeting, May 17 – May 28, 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **0959** | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Update of Applicability for Rx inter-band EN-DC including FR2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CMCC, Huawei, Qualcomm, Keysight, Ericsson, Bureau Veritas, Anritsu, CAICT | | | | | | | | | |
| ***Source to TSG:*** | R5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GS\_NR\_LTE-UEConTest | | | | |  | ***Date:*** | | | 2021-04-27 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change 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](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Applicability for Rx inter-band EN-DC including FR2 need to be updated. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Applicability for Rx inter-band EN-DC including FR2 have been updated. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The WP can not be completed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.3B, 7.4B, 7.5B, 7.6B, 7.9B | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | R1: Source companies have been updated.  R2: The wording of “Test description” for the “>2CCs” Refsens, MIL and ACS test cases have also been revised accordingly. The “Source to WG” has been updated.  R3: undo test description/initial condition/test requirement changes to 7.3B.2.3\_1.x as covered in R5-212748r1; update TC Title for clear view of NR CC # for LTE anchor agnostic approach test cases.  For TC 7.4B.4\_1.x, the test descriptions have been corrected since only 1 LTE has been configured.  For TC 7.5B.4\_1.x, the test descriptions have been further clarified.  “Test applicability” have been updated to be align with the test case titles in 7.3B, 7.4B, 7.5B, 7.6B and 7.9B | | | | | | | | |

<<< START OF CHANGES >>>

#### 7.3B.2.4 Reference sensitivity for Inter-band EN-DC including FR2 (1 NR CC)

7.3B.2.4.1 Test purpose

Same test purpose as in clause 7.3.2.1 in TS 38.521-2 [9] for the NR carrier.

7.3B.2.4.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 1 NR DL CC.

7.3B.2.4.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.3B.2.0.4 TS 3.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

The normative reference for this requirement is TS 38.101-3 [4] clause 7.3B.2.4.

7.3B.2.4.4 Test description

7.3B.2.4.4.1 Initial conditions

Same test description as in clause 7.3.2.4 in TS 38.521-2 [9] for the NR carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.6-1. For Initial conditions as in clause 7.3.2.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.7-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 7.3.2.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

Same test procedure as in clause 7.3.2.4.2 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.3B.2.4.5 Test requirement

Same test requirement as in clause 7.3.2.5 in TS 38.521-2 [9] for the NR carrier.

#### 7.3B.2.4\_1 Reference sensitivity for Inter-band EN-DC including FR2 (>1 NR CC)

##### 7.3B.2.4\_1.1 Reference sensitivity for Inter-band EN-DC including FR2 (2 NR CCs)

Editor's note: This clause is incomplete. The following aspects are either missing or not yet determined:

- Test applicability, Test Description requires updates to clarify number of E-UTRA carriers that will be configured during the test that will be limited to only 1 E-UTRA CC

7.3B.2.4\_1.1.1 Test purpose

Same test purpose as in clause 7.3B.2.4.1.

7.3B.2.4\_1.1.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 2 NR DL CCs.

7.3B.2.4\_1.1.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.3B.2.0.4.

7.3B.2.4\_1.1.4 Test description

The FR2 reference sensitivity test description for all 3CC EN-DC CA combinations (1LTE+2FR2, 2LTE+1FR2), is the same as in corresponding clause of clause 7.5A or clause 7.5 (if only 1 FR2 carrier) in TS 38.521-2 [9] with the exceptions described below.

7.3B.2.4\_1.1.4.1 Initial conditions

Initial conditions are a set of test configurations the UE needs to be tested in and the steps for the SS to take with the UE to reach the correct measurement state.

The initial test configurations consist of environmental conditions, test frequencies and channel bandwidths based on EN-DC operating bands specified in clause 5.2B.1, channel bandwidths and sub-carrier spacings for the NR cell specified in TS 38.521-2 [9] clause 5.3 or clause 5.3A and channel bandwidth for the E-UTRA cell are specified in TS 36.521-1 [10] clause 5.4.2 or clause 5.4.2A. All valid configurations shall be tested with applicable test parameters for inter-band EN-DC including FR2 configuration specified in clause 5.5B.5, and the configuration for NR carrier are shown in TS 38.521-2 [9] Table 7.3.2.4.1-1 or Table 7.3A.2.1.4.1-1.

For Initial conditions as in clause 7.3.2.4.1 or clause 7.3A.2.1.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are configured as per clause 4.7 with parameters set according to Table 4.7-1 and propagation conditions set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 7.3.2.4.1 or clause 7.3A.2.1.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

7.3B.2.4\_1.1.4.2 Test Procedure

Same test procedure as in clause 7.3.2.4.2 or clause 7.3A.2.1.4.2 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.3B.2.4\_1.1.4.3 Message contents

Message contents are according to TS 38.508-1 [6] clause 4.6.1.

7.3B.2.4\_1.1.5 Test requirement

For each NR component carrier, the test requirement is the same as in clause 7.3.2.5 or clause 7.3A.2.1.5 in TS 38.521-2 [9].

##### 7.3B.2.4\_1.2 Reference sensitivity for Inter-band EN-DC including FR2 (3 NR CCs)

7.3B.2.4\_1.2.1 Test purpose

Same test purpose as in clause 7.3B.2.4\_1.1.1.

7.3B.2.4\_1.2.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 3 NR DL CCs.

7.3B.2.4\_1.2.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.3B.2.4\_1.1.3.

7.3B.2.4\_1.2.4 Test description

The FR2 reference sensitivity test description for all 4CC EN-DC CA combinations (1LTE+3FR2, 2LTE+2FR2, 3LTE+1FR2), is the same as in corresponding clause of clause 7.5A or clause 7.5 (if only 1 FR2 carrier) in TS 38.521-2 [9], with the exceptions described in clause 7.3B.2.4\_1.1.4.1 and clause 7.3B.2.4\_1.1.4.2.

7.3B.2.4\_1.2.5 Test requirement

For each NR component carrier, the test requirement is the same as in clause 7.3.2.5 or clause 7.3A.2.1.5 in TS 38.521-2 [9].

##### 7.3B.2.4\_1.3 Reference sensitivity for Inter-band EN-DC including FR2 (4 NR CCs)

7.3B.2.4\_1.3.1 Test purpose

Same test purpose as in clause 7.3B.2.4\_1.1.1.

7.3B.2.4\_1.3.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 4 NR DL CCs.

7.3B.2.4\_1.3.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.3B.2.4\_1.1.3.

7.3B.2.4\_1.3.4 Test description

The FR2 reference sensitivity test description for all 5CC EN-DC CA combinations (1LTE+4FR2, 2LTE+3FR2, 3LTE+2FR2, 4LTE+1FR2), is the same as in corresponding clause of clause 7.5A or clause 7.5 (if only 1 FR2 carrier) in TS 38.521-2 [9], with the exceptions described in clause 7.3B.2.4\_1.1.4.1 and clause 7.3B.2.4\_1.1.4.2.

7.3B.2.4\_1.3.5 Test requirement

For each NR component carrier, the test requirement is the same as in clause 7.3.2.5 or clause 7.3A.2.1.5 in TS 38.521-2 [9].

##### 7.3B.2.4\_1.4 Reference sensitivity for Inter-band EN-DC including FR2 (5 NR CCs)

7.3B.2.4\_1.4.1 Test purpose

Same test purpose as in clause 7.3B.2.4\_1.1.1.

7.3B.2.4\_1.4.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 5 NR DL CCs.

7.3B.2.4\_1.4.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.3B.2.4\_1.1.3.

7.3B.2.4\_1.4.4 Test description

The FR2 reference sensitivity test description for all 6CC EN-DC CA combinations (1LTE+5FR2, 2LTE+4FR2, 3LTE+3FR2, 4LTE+2FR2, 5LTE+1FR2), is the same as in corresponding clause of clause 7.5A or clause 7.5 (if only 1 FR2 carrier) in TS 38.521-2 [9], with the exceptions described in clause 7.3B.2.4\_1.1.4.1 and clause 7.3B.2.4\_1.1.4.2.

7.3B.2.4\_1.4.5 Test requirement

For each NR component carrier, the test requirement is the same as in clause 7.3.2.5 or clause 7.3A.2.1.5 in TS 38.521-2 [9].

**<<< UNCHAGED SECTIONS SKIPPED >>>**

### 7.3B.4 EIS Spherical Coverage for Inter-band EN-DC including FR2 (1 NR CC)

7.3B.4.1 Test purpose

Same test purpose as in clause 7.3.4.1 in TS 38.521-2 [9] for the NR carrier.

7.3B.4.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 1 NR DL CC.

7.3B.4.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.3.4.3 in TS 38.521-2 [9] for the NR carrier.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

The normative reference for this requirement is TS 38.101-2 [9] clause 7.3.4.

**<<< UNCHAGED SECTIONS SKIPPED >>>**

#### 7.4B.4 Maximum Input Level for inter-band EN-DC including FR2 (1 NR CC)

Editor’s note: The following aspects are either missing or not yet determined:

- The referred test case 7.4 in TS 38.521-2 is incomplete.

7.4B.4.1 Test purpose

Same test purpose as in clause 7.4 in TS 38.521-2 [9] for the *NR* carrier.

7.4B.4.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 1 NR DL CC.

The minimum conformance requirements of NR FR2 carrier in this test case are not testable due to maximum input level unachievable in IFF OTA test setup. Other test setups have not been analysed. Thus the test case will not be tested as part of UE conformance testing.

NOTE: As a result TC 7.4B.4 has not been included in the test case applicability table 4.1.3-1, TS 38.522. This does not preclude the test from being used for R&D or other purposes if deemed useful to all types of NR UE release 15 and forward.

7.4B.4.3 Minimum conformance requirements

Refer to Clause 7.4B.0.4 for the inter-band EN-DC including FR2 maximum input level requirement.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

7.4B.4.4 Test description

Same test description as in clause 7.4.4 in TS 38.521-2 [9] for the *NR* carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.7-1.

For initial conditions as in clause 7.4.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1 The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] subclause 4.4.3.

3.1 The E-UTRA downlink signal level, uplink signal level are set according to Table 4.7-1 and propagation conditions are set according to Annex B.0 of TS36.521-1 [10].

Step 6 of Initial conditions as in clause 7.4.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

Same test procedure as in clause 7.4.4.2 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set TimeAlignmentTimerDedicated IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.4B.4.5 Test requirement

Same test requirement as in clause 7.4.5 in TS 38.521-2 [9] for the *NR* carrier.

#### 7.4B.4\_1 Maximum Input Level for Inter-Band EN-DC including FR2 (>1 NR CC)

##### 7.4B.4\_1.1 Maximum Input Level for Inter-Band EN-DC including FR2 (2 NR CCs)

Editor’s note: This clause is incomplete. The following aspects are either missing or not yet determined:

* The referred test case 7.4A.1 in TS 38.521-2 is incomplete.

7.4B.4\_1.1.1 Test purpose

Same test purpose as in clause 7.4 in TS 38.521-2 [9] for the NR carrier.

7.4B.4\_1.1.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 2 NR DL CCs.

The minimum conformance requirements of NR FR2 carrier in this test case are not testable due to maximum input level unachievable in IFF OTA test setup. Other test setups have not been analysed. Thus the test case will not be tested as part of UE conformance testing.

NOTE: As a result TC 7.4B.4\_1.1 has not been included in the test case applicability table 4.1.3-1, TS 38.522. This does not preclude the test from being used for R&D or other purposes if deemed useful to all types of NR UE release 15 and forward.

7.4B.4\_1.1.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.4B.4.3.

7.4B.4\_1.1.4 Test description

Same test description as in 7.4A.1.4 in TS 38.521-2 [9] for the *NR* carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.7-1.

For initial conditions as in 7.4A.1.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1 The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] subclause 4.4.3.

3.1 The E-UTRA downlink signal level, uplink signal level are set according to Table 4.7-1 and propagation conditions are set according to Annex B.0 of TS36.521-1 [10].

Step 6 of Initial conditions as in 7.4A.1.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

Same test procedure as in 7.4A.1.4.2 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set TimeAlignmentTimerDedicated IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.4B.4\_1.1.5 Test Requirements

Same test requirement as in 7.4A.1.5 in TS 38.521-2 [9] for the *NR* carrier(s).

##### 7.4B.4\_1.2 Maximum Input Level for Inter-Band EN-DC including FR2 (3 NR CCs)

Editor’s note: This clause is incomplete. The following aspects are either missing or not yet determined:

* The referred test case 7.4A.1 and 7.4A.2 in TS 38.521-2 is incomplete.

7.4B.4\_1.2.1 Test purpose

Same test purpose as in clause 7.4 in TS 38.521-2 [9] for the NR carrier.

7.4B.4\_1.2.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 3 NR DL CCs.

The minimum conformance requirements of NR FR2 carrier in this test case are not testable due to maximum input level unachievable in IFF OTA test setup. Other test setups have not been analysed. Thus the test case will not be tested as part of UE conformance testing.

NOTE: As a result TC 7.4B.4\_1.2 has not been included in the test case applicability table 4.1.3-1, TS 38.522. This does not preclude the test from being used for R&D or other purposes if deemed useful to all types of NR UE release 15 and forward.

7.4B.4\_1.2.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.4B.4.3.

7.4B.4\_1.2.4 Test description

Same test description as in clause 7.4A.2.4 in TS 38.521-2 [9] for the *NR* carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.7-1.

For initial conditions as in clause 7.4A.2.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1 The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] subclause 4.4.3.

3.1 The E-UTRA downlink signal level, uplink signal level are set according to Table 4.7-1 and propagation conditions are set according to Annex B.0 of TS36.521-1 [10].

Step 6 of Initial conditions as in clause 7.4A.2.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

Same test procedure as in clause 7.4A.2.4.2 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set TimeAlignmentTimerDedicated IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.4B.4\_1.2.5 Test Requirements

Same test requirement as in clause 7.4A.2.5 in TS 38.521-2 [9] for the *NR* carrier(s).

##### 7.4B.4\_1.3 Maximum Input Level for Inter-Band EN-DC including FR2 (4 NR CCs)

Editor’s note: This clause is incomplete. The following aspects are either missing or not yet determined:

* The referred test case 7.4A.1, 7.4A.2 and 7.4A.3 in TS 38.521-2 is incomplete.

7.4B.4\_1.3.1 Test purpose

Same test purpose as in clause 7.4 in TS 38.521-2 [9] for the NR carrier.

7.4B.4\_1.3.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 4 NR DL CCs.

The minimum conformance requirements of NR FR2 carrier in this test case are not testable due to maximum input level unachievable in IFF OTA test setup. Other test setups have not been analysed. Thus the test case will not be tested as part of UE conformance testing.

NOTE: As a result TC 7.4B.4\_1.3 has not been included in the test case applicability table 4.1.3-1, TS 38.522. This does not preclude the test from being used for R&D or other purposes if deemed useful to all types of NR UE release 15 and forward.

7.4B.4\_1.3.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.4B.4.3.

7.4B.4\_1.3.4 Test description

Same test description as in clause 7.4A.3.4 in TS 38.521-2 [9] for the *NR* carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.7-1.

For initial conditions as in clause 7.4A.3.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1 The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] subclause 4.4.3.

3.1 The E-UTRA downlink signal level, uplink signal level are set according to Table 4.7-1 and propagation conditions are set according to Annex B.0 of TS36.521-1 [10].

Step 6 of Initial conditions as in clause 7.4A.3.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

Same test procedure as in clause 7.4A.3.4.2 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set TimeAlignmentTimerDedicated IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.4B.4\_1.2.5 Test Requirements

Same test requirement as in clause 7.4A.3.5 in TS 38.521-2 [9] for the *NR* carrier(s).

##### 7.4B.4\_1.4 Maximum Input Level for Inter-Band EN-DC including FR2 (5 NR CCs)

Editor’s note: This clause is incomplete. The following aspects are either missing or not yet determined:

* The referred test case 7.4A.4 in TS 38.521-2 is incomplete.

7.4B.4\_1.4.1 Test purpose

Same test purpose as in clause 7.4 in TS 38.521-2 [9] for the NR carrier.

7.4B.4\_1.4.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 5 NR DL CCs.

The minimum conformance requirements of NR FR2 carrier in this test case are not testable due to maximum input level unachievable in IFF OTA test setup. Other test setups have not been analysed. Thus the test case will not be tested as part of UE conformance testing.

NOTE: As a result TC 7.4B.4\_1.4 has not been included in the test case applicability table 4.1.3-1, TS 38.522. This does not preclude the test from being used for R&D or other purposes if deemed useful to all types of NR UE release 15 and forward.

7.4B.4\_1.4.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.4B.4.3.

7.4B.4\_1.4.4 Test description

Same test description as in clause 7.4A.4.4 in TS 38.521-2 [9] for the *NR* carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.7-1.

For initial conditions as in clause 7.4A.4.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1 The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] subclause 4.4.3.

3.1 The E-UTRA downlink signal level, uplink signal level are set according to Table 4.7-1 and propagation conditions are set according to Annex B.0 of TS36.521-1 [10].

Step 6 of Initial conditions as in clause 7.4A.4.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

Same test procedure as in clause 7.4A.4.4.2 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set TimeAlignmentTimerDedicated IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.4B.4\_1.4.5 Test Requirements

Same test requirement as in clause 7.4A.4.5 in TS 38.521-2 [9] for the *NR* carrier(s).

**<<< UNCHAGED SECTIONS SKIPPED >>>**

### 7.5B.4 Adjacent Channel Selectivity for inter-band EN-DC including FR2 (1 NR CC)

Editor's note: This test case is not complete. Following aspects are either missing or not yet determined:

- MU is FFS in referred test case 7.5 in TS 38.521-2 [9].

- Testability issue due to high PSD interferer has been identified.

7.5B.4.1 Test purpose

Same test purpose as in clause 7.5B.1.1.

7.5B.4.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 1 NR DL CC.

7.5B.4.3 Minimum conformance requirements

The minimum conformance requirements are defined in clause 7.5B.0.4.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

7.5B.4.4 Test description

7.5B.4.4.1 Initial Condition

Initial conditions are a set of test configurations the UE needs to be tested in and the steps for the SS to take with the UE to reach the correct measurement state.

The initial test configurations consist of environmental conditions, test frequencies and channel bandwidths based on EN-DC operating bands specified in clause 5.2B.5.1, channel bandwidths and sub-carrier spacings for the NR cell specified in TS 38.521-2 [9] clause 5.3 and channel bandwidth for the E-UTRA cell are specified in TS 36.521-1 [10] clause 5.4.2. All of these configurations shall be tested with applicable test parameters for each inter-band EN-DC including FR2 configuration specified in clause 5.5B.5.1, and the configuration for NR carrier are shown in TS 38.521-2 [9] Table 7.5.4.1-1.

For initial conditions as in clause 7.5.4.1 in TS 38.521-2 [9], the following steps are added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

Step 6 of initial conditions as in clause 7.5.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

7.5B.4.4.2 Test Procedure

Same test procedure as specified in clause 7.5.4.2 in TS 38.521-2 [9] with the following exceptions for E-UTRA anchor

On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

7.5B.4.4.3 Message contents

Message contents are according to TS 38.508-1 [6] clause 4.6.1.

7.5B.4.5 Test requirement

Same test requirement as specified in TS 38.521-2 [9] Clause 7.5.5.

### 7.5B.4\_1 Adjacent Channel Selectivity for inter-band EN-DC including FR2 (>1 NR CC)

#### 7.5B.4\_1.1 Adjacent Channel Selectivity for inter-band EN-DC including FR2 (2 NR CCs)

Editor's note: This test case is not complete. Following aspects are either missing or not yet determined:

- Working assumption: to avoid LTE CA testing in inter-band EN-DC including FR2 and only PCC band is configured.

- MU and TT are FFS.

- [Table 7.5A.4.1-1] in TS 38.521-2 [9] where the configuration for NR CA carriers are shown is FFS.

- [clause 7.5A.4.1] in TS 38.521-2 [9] where the initial conditions for NR CA is FFS.

- [clause 7.5A.4.2] in TS 38.521-2 [9] where the test procedure for NR CA is FFS.

- [Clause 7.5A.5] in TS 38.521-2 [9] where the test requirements for NR CA is FFS.

- [Clause 7.5A] in TS 38.521-2 [9] where the test description for NR CA is FFS.

- How to choose the LTE anchor when LTE CA is implemented is FFS.

7.5B.4\_1.1.1 Test purpose

Same test purpose as in clause 7.5B.1.1.

7.5B.4\_1.1.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 2 NR DL CCs

7.5B.4\_1.1.3 Minimum conformance requirements

The minimum conformance requirements are defined in clause 7.5B.0.4.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

7.5B.4\_1.1.4 Test description

For inter-band EN-DC including FR2 UE configured as "2 NR DL CCs and 1 LTE DL CC", the test description of 2DL FR2 CA for adjacent channel selectivity is the same as in corresponding clause 7.5A in TS 38.521-2 [9] for FR2 with the exceptions described below.

7.5B.4\_1.1.4.1 Initial Condition

Initial conditions are a set of test configurations the UE needs to be tested in and the steps for the SS to take with the UE to reach the correct measurement state.

The initial test configurations consist of environmental conditions, test frequencies and channel bandwidths based on EN-DC operating bands specified in clause 5.2B.5.2, channel bandwidths and sub-carrier spacings for the NR cell specified in TS 38.521-2 [9] clause 5.3A and channel bandwidth for the E-UTRA cell are specified in TS 36.521-1 [10] clause 5.4.2. All of these configurations shall be tested with applicable test parameters for each inter-band EN-DC including FR2 configuration specified in clause 5.5B.5.2, and the configuration for NR carriers are shown in TS 38.521-2 [9] [Table 7.5A.4.1-1].

For initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9], the following steps are added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

Step 6 of initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

7.5B.4\_1.1.4.2 Test Procedure

Same test procedure as specified in [clause 7.5A.4.2] in TS 38.521-2 [9] with the following exceptions for E-UTRA anchor

On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

7.5B.4\_1.1.4.3 Message contents

Message contents are according to TS 38.508-1 [6] clause 4.6.1.

7.5B.4\_1.1.5 Test requirement

Same test requirement as specified in TS 38.521-2 [9] [Clause 7.5A.5].

#### 7.5B.4\_1.2 Adjacent Channel Selectivity for inter-band EN-DC including FR2 (3 NR CCs)

Editor's note: This test case is not complete. Following aspects are either missing or not yet determined:

- Working assumption: to avoid LTE CA testing in inter-band EN-DC including FR2 and only PCC band is configured.

- MU and TT are FFS.

- [Table 7.5A.4.1-1] in TS 38.521-2 [9] where the configuration for NR CA carriers are shown in FFS.

- [clause 7.5A.4.1] in TS 38.521-2 [9] where the initial conditions for NR CA in FFS.

- [clause 7.5A.4.2] in TS 38.521-2 [9] where the test procedure for NR CA in FFS.

- [Clause 7.5A.5] in TS 38.521-2 [9] where the test requirements for NR CA in FFS.

- [Clause 7.5A] in TS 38.521-2 [9] where the test description for NR CA is FFS.

- How to choose the LTE anchor when LTE CA is implemented is FFS.

7.5B.4\_1.2.1 Test purpose

Same test purpose as in clause 7.5B.1.1.

7.5B.4\_1.2.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 3 NR DL CCs.

7.5B.4\_1.2.3 Minimum conformance requirements

The minimum conformance requirements are defined in clause 7.5B.0.4.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

7.5B.4\_1.2.4 Test description

For inter-band EN-DC including FR2 UE configured as "3 NR DL CCs and 1 LTE DL CC", the test description of 3DL FR2 CA for adjacent channel selectivity is the same as in corresponding part of clause 7.5A in TS 38.521-2 [9] for FR2 with the exceptions described below.

7.5B.4\_1.2.4.1 Initial Condition

Initial conditions are a set of test configurations the UE needs to be tested in and the steps for the SS to take with the UE to reach the correct measurement state.

The initial test configurations consist of environmental conditions, test frequencies and channel bandwidths based on EN-DC operating bands specified in clause 5.2B.5.3, channel bandwidths and sub-carrier spacings for the NR cell specified in TS 38.521-2 [9] clause 5.3A and channel bandwidth for the E-UTRA cell are specified in TS 36.521-1 [10] clause 5.4.2. All of these configurations shall be tested with applicable test parameters for each inter-band EN-DC including FR2 configuration specified in clause 5.5B.5.3, and the configuration for NR carriers are shown in TS 38.521-2 [9] [Table 7.5A.4.1-1].

For initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9], the following steps are added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

Step 6 of initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

7.5B.4\_1.2.4.2 Test Procedure

Same test procedure as specified in clause 7.5B.4.2.4.2.

7.5B.4\_1.2.4.3 Message contents

Same message contents as specified in clause 7.5B.4.2.4.3.

7.5B.4\_1.2.5 Test requirement

Same test requirement as specified in clause 7.5B.4.2.5.

#### 7.5B.4\_1.3 Adjacent Channel Selectivity for inter-band EN-DC including FR2 (4 NR CCs)

Editor's note: This test case is not complete. Following aspects are either missing or not yet determined:

- Working assumption: to avoid LTE CA testing in inter-band EN-DC including FR2 and only PCC band is configured.

- MU and TT are FFS.

- [Table 7.5A.4.1-1] in TS 38.521-2 [9] where the configuration for NR CA carriers are shown is FFS.

- [clause 7.5A.4.1] in TS 38.521-2 [9] where the initial conditions for NR CA is FFS.

- [clause 7.5A.4.2] in TS 38.521-2 [9] where the test procedure for NR CA is FFS.

- [Clause 7.5A.5] in TS 38.521-2 [9] where the test requirements for NR CA is FFS.

- [Clause 7.5A] in TS 38.521-2 [9] where the test description for NR CA is FFS.

- How to choose the LTE anchor when LTE CA is implemented is FFS.

7.5B.4\_1.3.1 Test purpose

Same test purpose as in clause 7.5B.1.1.

7.5B.4\_1.3.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 4 NR DL CCs.

7.5B.4\_1.3.3 Minimum conformance requirements

The minimum conformance requirements are defined in clause 7.5B.0.4.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

7.5B.4\_1.3.4 Test description

For inter-band EN-DC including FR2 UE configured as " 4 NR DL CCs and 1 LTE DL CC", the test description of 4DL FR2 CA for adjacent channel selectivity is the same as in corresponding part of clause 7.5A in TS 38.521-2 [9] for FR2 with the exceptions described below.

7.5B.4\_1.3.4.1 Initial Condition

Initial conditions are a set of test configurations the UE needs to be tested in and the steps for the SS to take with the UE to reach the correct measurement state.

The initial test configurations consist of environmental conditions, test frequencies and channel bandwidths based on EN-DC operating bands specified in clause 5.2B.5.4, channel bandwidths and sub-carrier spacings for the NR cell specified in TS 38.521-2 [9] clause 5.3A and channel bandwidth for the E-UTRA cell are specified in TS 36.521-1 [10] clause 5.4.2. All of these configurations shall be tested with applicable test parameters for each inter-band EN-DC including FR2 configuration specified in clause 5.5B.5.4, and the configuration for NR carriers are shown in TS 38.521-2 [9] [Table 7.5A.4.1-1].

For initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9], the following steps are added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

Step 6 of initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

7.5B.4\_1.3.4.2 Test Procedure

Same test procedure as specified in clause 7.5B.4.2.4.2.

7.5B.4\_1.3.4.3 Message contents

Same message contents as specified in clause 7.5B.4.2.4.3.

7.5B.4\_1.3.5 Test requirement

Same test requirement as specified in clause 7.5B.4.2.5.

#### 7.5B.4\_1.4 Adjacent Channel Selectivity for inter-band EN-DC including FR2 (5 NR CCs)

Editor's note: This test case is not complete. Following aspects are either missing or not yet determined:

- Working assumption: to avoid LTE CA testing in inter-band EN-DC including FR2 and only PCC band is configured.

- MU and TT are FFS.

- [Table 7.5A.4.1-1] in TS 38.521-2 [9] where the configuration for NR CA carriers are shown is FFS.

- [clause 7.5A.4.1] in TS 38.521-2 [9] where the initial conditions for NR CA is FFS.

- [clause 7.5A.4.2] in TS 38.521-2 [9] where the test procedure for NR CA is FFS.

- [Clause 7.5A.5] in TS 38.521-2 [9] where the test requirements for NR CA is FFS.

- [clause 5.2B.5.5] where EN-DC operating bands have been specified is FFS.

- [Clause 7.5A] in TS 38.521-2 [9] where the test description for NR CA is FFS.

- How to choose the LTE anchor when LTE CA is implemented is FFS.

7.5B.4\_1.4.1 Test purpose

Same test purpose as in clause 7.5B.1.1.

7.5B.4\_1.4.2 Test applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 5 NR DL CCs.

7.5B.4\_1.4.3 Minimum conformance requirements

The minimum conformance requirements are defined in clause 7.5B.0.4.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

7.5B.4\_1.4.4 Test description

For inter-band EN-DC including FR2 UE configured as "5 NR DL CCs and 1 LTE DL CC", the test description of 5DL FR2 CA for adjacent channel selectivity is the same as in corresponding part of clause 7.5A in TS 38.521-2 [9] for FR2 with the exceptions described below.

7.5B.4\_1.4.4.1 Initial Condition

Initial conditions are a set of test configurations the UE needs to be tested in and the steps for the SS to take with the UE to reach the correct measurement state.

The initial test configurations consist of environmental conditions, test frequencies and channel bandwidths based on EN-DC operating bands specified in [clause 5.2B.5.5], channel bandwidths and sub-carrier spacings for the NR cell specified in TS 38.521-2 [9] clause 5.3A and channel bandwidth for the E-UTRA cell are specified in TS 36.521-1 [10] clause 5.4.2. All of these configurations shall be tested with applicable test parameters for each inter-band EN-DC including FR2 configuration specified in clause 5.5B.5.5, and the configuration for NR carriers are shown in TS 38.521-2 [9] [Table 7.5A.4.1-1].

For initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9], the following steps are added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

Step 6 of initial conditions as in [clause 7.5A.4.1] in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

7.5B.4\_1.4.4.2 Test Procedure

Same test procedure as specified in clause 7.5B.4.2.4.2.

7.5B.4\_1.4.4.3 Message contents

Same message contents as specified in clause 7.5B.4.2.4.3.

7.5B.4\_1.4.5 Test requirement

Same test requirement as specified in clause 7.5B.4.2.5.

**<<< UNCHAGED SECTIONS SKIPPED >>>**

#### 7.6B.2.4 Inband blocking for inter-band EN-DC including FR2 (1 NR CC)

Editor's note: This clause is incomplete. The following aspects are either missing or not yet determined:

- MU is FFS in referred test case 7.6.2 in TS 38.521-2 [9].

7.6B.2.4.1 Test Purpose

Same test purpose as in clause 7.6.2.1 in TS 38.521-2 [9] for the NR carrier.

7.6B.2.4.2 Test Applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 1 NR DL CC.

7.6B.2.4.3 Minimum Conformance Requirements

The minimum conformance requirements are defined in clause 7.6B.2.0.4.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

7.6B.2.4.4 Test Description

Same test description as in clause 7.6.2.4 in TS 38.521-2 [9] for the NR carrier with the following exceptions:

The initial test configurations for E-UTRA consist of test frequency based on E-UTRA operating band and test channel bandwidth as specified in Table 4.6-1.

For Initial conditions as in clause 7.6.2.4.1 in TS 38.521-2 [9], add step 2.1 and step 3.1 as follows:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 7.6.2.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

Add step 7 to Initial conditions in clause 7.6.2.4.1 in TS 38.521-2 [9] as follows:

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

7.6B.2.4.5 Test Requirement

Same test requirement as in clause 7.6.2.5 in TS 38.521-2 [9].

#### 7.6B.2.4\_1 Inband blocking for inter-band EN-DC including FR2 (>1 NR CC)

##### 7.6B.2.4\_1.1 Inband blocking for inter-band EN-DC including FR2 (2 NR CCs)

Editor's note: This clause is incomplete. The following aspects are either missing or not yet determined:

- The referred test case 7.6A.2.1 in TS 38.521-2 is incomplete.

7.6B.2.4\_1.1.1 Test Purpose

Same test purpose as in clause 7.6B.2.4.1.

7.6B.2.4\_1.1.2 Test Applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 2 NR DL CCs.

7.6B.2.4\_1.1.3 Minimum Conformance Requirements

Same minimum conformance requirements as in clause 7.4B.2.4.3

7.6B.2.4\_1.1.4 Test Description

Same test description as in clause  7.6A.2.1.4 in TS 38.521-2 [9] for the NR carrier with the following exceptions:

The initial test configurations for E-UTRA consist of test frequency based on E-UTRA operating band and test channel bandwidth as specified in Table 4.6-1.

For Initial conditions as in clause  7.6A.2.1.4.1 in TS 38.521-2 [9], add step 2.1 and step 3.1 as follows:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause  7.6A.2.1.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

Add step 7 to Initial conditions in clause  7.6A.2.1.4.1 in TS 38.521-2 [9] as follows:

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

7.6B.2.4\_1.1.5 Test Requirement

Same test requirement as in clause  7.6A.2.1.5 in TS 38.521-2 [9].

##### 7.6B.2.4\_1.2 Inband blocking for inter-band EN-DC including FR2 (3 NR CCs)

Editor's note: This clause is incomplete. The following aspects are either missing or not yet determined:

- The referred test case 7.6A.2.2 in TS 38.521-2 is incomplete.

7.6B.2.4\_1.2.1 Test Purpose

Same test purpose as in clause 7.6B.2.4.1.

7.6B.2.4\_1.2.2 Test Applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 3 NR DL CCs.

7.6B.2.4\_1.2.3 Minimum Conformance Requirements

Same minimum conformance requirements as in clause 7.4B.2.4.3

7.6B.2.4\_1.2.4 Test Description

Same test description as in clause  7.6A.2.2.4 in TS 38.521-2 [9] for the NR carrier with the following exceptions:

The initial test configurations for E-UTRA consist of test frequency based on E-UTRA operating band and test channel bandwidth as specified in Table 4.6-1.

For Initial conditions as in clause  7.6A.2.2.4.1 in TS 38.521-2 [9], add step 2.1 and step 3.1 as follows:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause  7.6A.2.2.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

Add step 7 to Initial conditions in clause  7.6A.2.2.4.1 in TS 38.521-2 [9] as follows:

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

7.6B.2.4\_1.2.5 Test Requirement

Same test requirement as in clause  7.6A.2.2.5 in TS 38.521-2 [9].

##### 7.6B.2.4\_1.3 Inband blocking for inter-band EN-DC including FR2 (4 NR CCs)

Editor's note: This clause is incomplete. The following aspects are either missing or not yet determined:

- The referred test case 7.6A.2.3 in TS 38.521-2 is incomplete.

7.6B.2.4\_1.3.1 Test Purpose

Same test purpose as in clause 7.6B.2.4.1.

7.6B.2.4\_1.3.2 Test Applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 4 NR DL CCs.

7.6B.2.4\_1.3.3 Minimum Conformance Requirements

Same minimum conformance requirements as in clause 7.4B.2.4.3

7.6B.2.4\_1.3.4 Test Description

Same test description as in clause  7.6A.2.3.4 in TS 38.521-2 [9] for the NR carrier with the following exceptions:

The initial test configurations for E-UTRA consist of test frequency based on E-UTRA operating band and test channel bandwidth as specified in Table 4.6-1.

For Initial conditions as in clause  7.6A.2.3.4.1 in TS 38.521-2 [9], add step 2.1 and step 3.1 as follows:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 7.6A.2.3.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

Add step 7 to Initial conditions in clause  7.6A.2.3.4.1 in TS 38.521-2 [9] as follows:

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

7.6B.2.4\_1.3.5 Test Requirement

Same test requirement as in clause  7.6A.2.3.5 in TS 38.521-2 [9].

##### 7.6B.2.4\_1.4 Inband blocking for inter-band EN-DC including FR2 (5 NR CCs)

Editor's note: This clause is incomplete. The following aspects are either missing or not yet determined:

- The referred test case 7.6A.2.4 in TS 38.521-2 is incomplete.

7.6B.2.4\_1.4.1 Test Purpose

Same test purpose as in clause 7.6B.2.4.1.

7.6B.2.4\_1.4.2 Test Applicability

This test case applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 5 NR DL CCs.

7.6B.2.4\_1.4.3 Minimum Conformance Requirements

Same minimum conformance requirements as in clause 7.4B.2.4.3

7.6B.2.4\_1.4.4 Test Description

Same test description as in clause 7.6A.2.4.4 in TS 38.521-2 [9] for the NR carrier with the following exceptions:

The initial test configurations for E-UTRA consist of test frequency based on E-UTRA operating band and test channel bandwidth as specified in Table 4.6-1.

For Initial conditions as in clause 7.6A.2.4.4.1 in TS 38.521-2 [9], add step 2.1 and step 3.1 as follows:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.6-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 7.6A.2.4.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release *On* according to TS 38.508 [6] clause 4.5.

Add step 7 to Initial conditions in clause 7.6A.2.4.4.1 in TS 38.521-2 [9] as follows:

7. On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.6-1 under clause 4.6.

7.6B.2.4\_1.4.5 Test Requirement

Same test requirement as in clause  7.6A.2.4.5 in TS 38.521-2 [9].

**<<< UNCHAGED SECTIONS SKIPPED >>>**

### 7.9B.4 Spurious Emissions for inter-band EN-DC including FR2 (1 NR CC)

Editor's note: The following aspects are either missing or not yet determined:

- The testability of this test case is pending further analysis on relaxation of the requirement for band other than n257.

- Measurement Uncertainties and Test Tolerances are FFS for power class 1, 2, and 4.

7.9B.4.1 Test purpose

Same test purpose as in clause 7.9.1 in TS 38.521-2 [9] for the *NR* carrier.

7.9B.4.2 Test applicability

This test applies to all types of E-UTRA UE release 15 and forward, supporting inter-band EN-DC including FR2 with 1 NR DL CC.

7.9B.4.3 Minimum conformance requirements

Same minimum conformance requirements as in clause 7.9.3 in TS 38.521-2 [9] for the *NR* carrier.

No exception requirements applicable to NR or LTE. LTE anchor agnostic approach is applied.

The normative reference for this requirement is TS 38.101-3 [4] clause 7.9B.4.

7.9B.4.4 Test description

Same test description as in clause 7.9.4 in TS 38.521-2 [9] for the *NR* carrier with the following exception:

The initial test configurations for E-UTRA band consist of environmental conditions, test frequencies, and channel bandwidths based on E-UTRA bands specified in Table 4.7-1.

For initial conditions as in clause 7.9.4.1 in TS 38.521-2 [9], the following steps will be added to configure E-UTRA component:

2.1. The parameter settings for E-UTRA cell are set up according to TS 36.508 [11] clause 4.4.3.

3.1. The E-UTRA downlink signal level, uplink signal level are set according to Table 4.7-1 and propagation conditions are set according to Annex B.0 of TS 36.521-1 [10].

Step 6 of Initial conditions as in clause 7.9.4.1 in TS 38.521-2 [9] is replaced by:

6. Ensure the UE is in state RRC\_CONNECTED with generic procedure parameters Connectivity EN-DC, DC bearer MCG and SCG, Connected without release On according to TS 38.508-1 [6] clause 4.5.

Same test procedure as in clause 7.9.4.1 in TS 38.521-2 [9] with the following steps added for E-UTRA component:

1.1 On the E-UTRA carrier, disable periodic and aperiodic CQI reports, disable SRS, set *TimeAlignmentTimerDedicated* IE to infinity and disable downlink and uplink scheduling, all as per Table 4.7-1 under clause 4.7.

7.9B.4.5 Test requirements

Same test requirement as in clause 7.9.5 in TS 38.521-2 [9] for the *NR* carrier.

<< END OF CHANGES >>