**3GPP TSG-RAN5 Meeting #94-e *R5s22xxx***

**Online, , 21st Feb 2022 - 4th Mar 2022**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.523-3** | **CR** | **xxx** | **rev** | **-** | **Current version:** | **16.1.0** |  |
|  | | | | | | | | |
| *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:*** | Correction to NR5GC testcases 8.1.4.1.9.1, 8.1.4.1.9.2 and 8.1.4.1.9.3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ROHDE & SCHWARZ | | | | | | | | | |
| ***Source to TSG:*** | R5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GS\_NR\_LTE-UEConTest | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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:*** | | At Step 12-13 , reconfiguration message is sent to resume existing radio bearers on NR cell 1 and to add Nr cell 3 / 10 as Scell;  It is required to make sure , in addition to scell addition , reconfiguration DAI as multiple serving cell is also required . It is proposed to send reconfiguration to resume existing radio beares on Nr cell 1 at steps 12-13, and at step 12A-12B ( new Steps ) , SS can be configured with addition of scells and send peer message to UE for addition of Scells .  this will make sure reconfiguration DAI as multiple serving cell is done before sending Step14 , Reconfiguration message to setup Event A3 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | At step 12-13 , reconfiguration message is sent only to resume existing radio bearers on NR cell 1 and as a new step 12A-13A , addition of Scell ( NR cell 3/10 ) is done which is also helping to reconfigure DAI as multiple serving cell at the network end | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | A conformant UE may fail the test case | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.1.4.1.9.1.NR5GC, 8.1.4.1.9.2.N5GC and 8.1.4.1.9.3.NR5GC | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | |  | | |
| ***affected:*** | | **x** |  | Test specifications | | | | 38523-1 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

# 8 RRC

## 8.1 NR RRC

### 8.1.4 Handover

#### 8.1.4.1 Intra NR handover

##### 8.1.4.1.9 NR CA / Intra NR handover / Failure / Re-establishment successful

###### 8.1.4.1.9.1 NR CA / Intra NR handover / Failure / Re-establishment successful / Intra-band Contiguous CA

8.1.4.1.9.1.1 Test Purpose (TP)

(1)

**with** { UE in NR RRC\_CONNECTED state and having received an RRCReconfiguration message including a reconfigurationWithSync for PCell change and including sCellToReleaseList with an sCellIndex set to the configured Scell }

**ensure that** {

**when** { UE detects handover failure and the source PCell is selectable}

**then** { UE successfully performs an RRCReestablishment procedure on source Pcell}

}

(2)

**with** { UE in NR RRC\_CONNECTED state and having received an RRCReconfiguration message including a reconfigurationWithSync for PCell change and including sCellToReleaseList with an sCellIndex set to the configured SCell }

**ensure that** {

**when** { UE detects handover failure and the initial SCell is selectable}

**then** { UE successfully performs an RRCReestablishment procedure on original SCell and the original SCell becomes the PCell}

}

8.1.4.1.9.1.2 Conformance requirements

References: The conformance requirements covered in the present test case are specified in: TS 38.331, clause 5.3.5.5.2, 5.3.5.5.9, 5.3.5.5.8 and 5.3.7.5. Unless otherwise stated these are Rel-15 requirements.

[TS 38.331, clause 5.3.5.5.2]

The UE shall perform the following actions to execute a reconfiguration with sync.

1> if the AS security is not activated, perform the actions upon going to RRC\_IDLE as specified in 5.3.11 with the release cause '*other*' upon which the procedure ends;

1> stop timer T310 for the corresponding SpCell, if running;

1> start timer T304 for the corresponding SpCell with the timer value set to *t304*, as included in the *reconfigurationWithSync*;

1> if the *frequencyInfoDL* is included:

2> consider the target SpCell to be one on the SSB frequency indicated by the *frequencyInfoDL* with a physical cell identity indicated by the *physCellId*;

1> else:

2> consider the target SpCell to be one on the SSB frequency of the source SpCell with a physical cell identity indicated by the *physCellId*;

1> start synchronising to the DL of the target SpCell;

1> apply the specified BCCH configuration defined in 9.1.1.1;

1> acquire the *MIB*, which is scheduled as specified in TS 38.213 [13];

NOTE 1: The UE should perform the reconfiguration with sync as soon as possible following the reception of the RRC message triggering the reconfiguration with sync, which could be before confirming successful reception (HARQ and ARQ) of this message.

NOTE 2: The UE may omit reading the *MIB* if the UE already has the required timing information, or the timing information is not needed for random access.

1> reset the MAC entity of this cell group;

1> consider the SCell(s) of this cell group, if configured, to be in deactivated state;

1> apply the value of the *newUE-Identity* as the C-RNTI for this cell group;

1> configure lower layers in accordance with the received s*pCellConfigCommon*;

1> configure lower layers in accordance with any additional fields, not covered in the previous, if included in the received *reconfigurationWithSync.*

[TS 38.331, clause 5.3.5.5.9]

The UE shall:

1> for each *sCellIndex* value included in the *sCellToAddModList* that is not part of the current UE configuration (SCell addition):

2> add the SCell, corresponding to the *sCellIndex*, in accordance with the *sCellConfigCommon* and *sCellConfigDedicated*;

2> configure lower layers to consider the SCell to be in deactivated state;

2> for each *measId* included in the *measIdList* within *VarMeasConfig*:

3> if SCells are not applicable for the associated measurement; and

3> if the concerned SCell is included in *cellsTriggeredList* defined within the *VarMeasReportList* for this *measId*:

4> remove the concerned SCell from *cellsTriggeredList* defined within the *VarMeasReportList* for this *measId*;

1> for each *sCellIndex* value included in the *sCellToAddModList* that is part of the current UE configuration (SCell modification):

2> modify the SCell configuration in accordance with the *sCellConfigDedicated*.

[TS 38.331, clause 5.3.5.5.8]

The UE shall:

1> if the release is triggered by reception of the *sCellToReleaseList*:

2> for each *sCellIndex* value included in the *sCellToReleaseList*:

3> if the current UE configuration includes an SCell with value *sCellIndex*:

4> release the SCell.

[TS 38.331, clause 5.3.7.5]

The UE shall:

1> stop timer T301;

1> consider the current cell to be the PCell;

1> store the *nextHopChainingCount* value indicated in the *RRCReestablishment* message;

1> update the KgNB key based on the current KgNB key or the NH*,* using the stored *nextHopChainingCount* value, as specified in TS 33.501 [11];

1> derive the KRRCenc and KUPenc keys associated with the previously configured *cipheringAlgorithm,* as specified in TS 33.501 [11];

1> derive the KRRCint and KUPint keys associated with the previously configured *integrityProtAlgorithm,* as specified in TS 33.501 [11].

1> request lower layers to verify the integrity protection of the *RRCReestablishment* message, using the previously configured algorithm and the KRRCint key;

1> if the integrity protection check of the *RRCReestablishment* message fails:

2> perform the actions upon going to RRC\_IDLE as specified in 5.3.11, with release cause 'RRC connection failure', upon which the procedure ends;

1> configure lower layers to resume integrity protection for SRB1 using the previously configured algorithm and the KRRCint key immediately, i.e., integrity protection shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure;

1> configure lower layers to resume ciphering for SRB1 using the previously configured algorithm and, the KRRCenc key immediately, i.e., ciphering shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure;

1> release the measurement gap configuration indicated by the *measGapConfig*, if configured;

1> submit the *RRCReestablishmentComplete* message to lower layers for transmission;

1> the procedure ends.

8.1.4.1.9.1.3 Test Description

8.1.4.1.9.1.3.1 Pre-test conditions

System Simulator:

- NR Cell 1 is the PCell and NR Cell 3 is the configured SCell and target PCell.

- System information combination NR-4 as defined in TS 38.508-1 [4] clause 4.4.3.1.3 is used in all NR cells.

UE:

- None.

Preamble:

- The UE is in 5GS state 3N-A as defined in TS 38.508-1 [4], clause 4.4A.2 Table 4.4A.2-3 on NR Cell 1.

8.1.4.1.9.1.3.2 Test procedure sequence

Table 8.1.4.1.9.1.3.2-1 and Table 8.1.4.1.9.1.3.2-1A illustrates the downlink power levels to be applied for NR Cell 1 and NR Cell 3 at various time instants of the test execution. Row marked "T0" denotes the conditions after the preamble, while rows marked "T1", "T2", "T3" and "T4" are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Table 8.1.4.1.9.1.3.2-1: Time instances of cell power level and parameter changes for FR1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Parameter | Unit | NR Cell 1 | NR Cell 3 | Remark |
| T0 | SS/PBCH  SSS EPRE | dBm/SCS | -85 | -91 | Power levels are such that entry condition for event A3 is not satisfied  *Mn + Ofn + Ocn – Hys < Mp + Ofp + Ocp + Off* |
| T1 | SS/PBCH  SSS EPRE | dBm/SCS | -85 | -79 | Power levels are such that entry condition for event A3 is satisfied  *Mn + Ofn + Ocn – Hys > Mp + Ofp + Ocp + Off* |
| T2 | SS/PBCH  SSS EPRE | dBm/SCS | -85 | “Off” | Power levels are assigned to satisfy SrxLevCell3 < 0 such that selecting Cell 1 is guaranteed |
| T3 | SS/PBCH  SSS EPRE | dBm/SCS | -85 | -79 | Power levels are such that entry condition for event A3 is satisfied  *Mn + Ofn + Ocn – Hys > Mp + Ofp + Ocp + Off* |
| T4 | SS/PBCH  SSS EPRE | dBm/SCS | “Off” | -79 | Power levels are assigned to satisfy SrxLevCell1 < 0 such that selecting Cell 3 is guaranteed |

Table 8.1.4.1.9.1.3.2-1A: Time instances of cell power level and parameter changes for FR2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Parameter | Unit | NR Cell 1 | NR Cell 3 | Remark |
| T0 | SS/PBCH  SSS EPRE | dBm/SCS | [FFS] | [FFS] | Power levels are such that entry condition for event A3 is not satisfied  *Mn + Ofn + Ocn – Hys < Mp + Ofp + Ocp + Off* |
| T1 | SS/PBCH  SSS EPRE | dBm/SCS | [FFS] | [FFS] | Power levels are such that entry condition for event A3 is satisfied  *Mn + Ofn + Ocn – Hys > Mp + Ofp + Ocp + Off* |
| T2 | SS/PBCH  SSS EPRE | dBm/SCS | [FFS] | “Off” | Power levels are assigned to satisfy SrxLevCell3 < 0 such that selecting Cell 1 is guaranteed |
| T3 | SS/PBCH  SSS EPRE | dBm/SCS | [FFS] | [FFS] | Power levels are such that entry condition for event A3 is satisfied  *Mn + Ofn + Ocn – Hys > Mp + Ofp + Ocp + Off* |
| T4 | SS/PBCH  SSS EPRE | dBm/SCS | “Off” | [FFS] | Power levels are assigned to satisfy SrxLevCell1 < 0 such that selecting Cell 3 is guaranteed |

Table 8.1.4.1.9.1.3.2-2: Main behaviour

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| St | Procedure | Message Sequence | | TP | Verdict |
|  |  | U - S | Message |  |  |
| 1 | The SS transmits an *RRCReconfiguration* message on NR Cell 1 to configure NR Cell 3 as an SCell | <-- | NR RRC: *RRCReconfiguration* | - | - |
| 2 | The UE transmits an *RRCReconfigurationComplete* message on NR Cell 1. | --> | NR RRC: *RRCReconfigurationComplete* | - | - |
| 3 | The SS transmits an *RRCReconfiguration* message on NR Cell 1 to setup event A3 reporting configuration. | <-- | NR RRC: *RRCReconfiguration* | - | - |
| 4 | The UE transmits an *RRCReconfigurationComplete* message on NR Cell 1. | --> | NR RRC: *RRCReconfigurationComplete* | - | - |
| 5 | The SS changes NR Cell 1 and NR Cell 3 parameters according to the row "T1" in table 8.1.4.1.9.1.3.2-1/1A | - | - | - | - |
| 6 | The UE transmits a *MeasurementReport* message on NR Cell 1 to report event A3 with the measured RSRP, RSRQ value for NR Cell 3. | --> | NR RRC: *MeasurementReport* | - | - |
| 7 | The SS transmits an *RRCReconfiguration* message on NR Cell 1 to order the UE to perform inter frequency handover to NR Cell 3 and to release SCell NR Cell 3. | <-- | NR RRC: *RRCReconfiguration* | - | - |
| - | EXCEPTION: In parallel to the events described in step 8 the steps specified in Table 8.1.4.1.9.1.3.2-3 should take place. | - | - | - | - |
| 8 | The SS changes NR Cell 1 and NR Cell 3 parameters according to the row "T2" in table 8.1.4.1.9.1.3.2-1/1A | - | *-* | - | - |
| 9 | Check: Does the UE transmit an *RRCReestablishmentRequest* message on NR Cell 1? | --> | NR RRC: *RRCReestablishmentRequest* | 1 | P |
| 10 | The SS transmits an *RRCReestablishment* message to resume SRB1 operation and re-activate security on NR Cell 1. | <-- | NR RRC: *RRCReestablishment* | - | - |
| 11 | The UE transmits an *RRCReestablishmentComplete* message | --> | NR RRC: *RRCReestablishmentComplete* | - | - |
|  |  |  |  |  |  |
| 12 | The SS transmits an *RRCReconfiguration* message to resume existing radio bearer on NR Cell 1 | <-- | NR RRC: *RRCReconfiguration* | - | - |
| 13 | The UE transmits an *RRCReconfigurationComplete* message on NR Cell 1 | --> | NR RRC: *RRCReconfigurationComplete* | - | - |
| 11A | The SS changes NR Cell 1 and NR Cell 3 parameters according to the row "T3" in table 8.1.4.1.9.1.3.2-1/1A. | - | - | - | - |
| 12A | The SS transmits an *RRCReconfiguration* message to configure NR Cell 3 as an SCell | <-- | NR RRC: *RRCReconfiguration* | - | - |
| 13A | The UE transmits an *RRCReconfigurationComplete* message on NR Cell 1 | --> | NR RRC: *RRCReconfigurationComplete* | - | - |
| 14 | The SS transmits an *RRCReconfiguration* message on NR Cell 1 to setup event A3 reporting configuration. | <-- | NR RRC: *RRCReconfiguration* | - | - |
| 15 | The UE transmits an *RRCReconfigurationComplete* message on NR Cell 1. | --> | NR RRC: *RRCReconfigurationComplete* | - | - |
| 16 | Void | - | - | - | - |
| 17 | The UE transmits a *MeasurementReport* message on NR Cell 1 to report event A3 with the measured RSRP, RSRQ value for NR Cell 3. | --> | NR RRC: *MeasurementReport* | - | - |
| 18 | The SS transmits an *RRCReconfiguration* message on NR Cell 1 to order the UE to perform handover to NR Cell 3 and to release SCell NR Cell3. | <-- | NR RRC: *RRCReconfiguration* | - | - |
| - | EXCEPTION: In parallel to the events described in step 19 the steps specified in Table 8.1.4.1.9.1.3.2-3 should take place. | - | - | - | - |
| 19 | The SS changes NR Cell 1 and NR Cell 3 parameters according to the row "T4" in table 8.1.4.1.9.1.3.2-1/1A | - | - | - | - |
| 20 | Check: Does the UE transmit an *RRCReestablishmentRequest* message on NR Cell 3? | --> | NR RRC: *RRCReestablishmentRequest* | 2 | P |
| 21 | The SS transmits an *RRCReestablishment* message to resume SRB1 operation and re-activate security on NR Cell 3. | <-- | NR RRC: *RRCReestablishment* | - | - |
| 22 | The UE transmits an *RRCReestablishmentComplete* message | --> | NR RRC: *RRCReestablishmentComplete* | - | - |
| 23 | The SS transmits an *RRCReconfiguration* message to resume existing radio bearer on NR Cell 3. | <-- | NR RRC: *RRCReconfiguration* | - | - |
| 24 | The UE transmits an *RRCReconfigurationComplete* message on NR Cell 3. | --> | NR RRC: *RRCReconfigurationComplete* | - | - |

Table 8.1.4.1.9.1.3.2-3: Parallel behaviour

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| St | Procedure | Message Sequence | | TP | Verdict |
|  |  | U - S | Message |  |  |
| - | EXCEPTION: The steps 1 and 2 below are repeated for the duration of T304. | - | *-* | - | - |
| 1 | The UE attempts to perform the inter frequency handover using MAC Random Access Preamble on NR Cell 3. | - | *-* | - | - |
| 2 | The SS does not respond. | - | *-* | - | - |

8.1.4.1.9.1.3.3 Specific message contents

Table 8.1.4.1.9.1.3.3-1: SIB1 for NR Cell 1 and NR Cell 3 (Preamble and all the steps in Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4] table 4.6.1-28 | | | |
| Information Element | Value/Remark | Comment | Condition |
| SIB1 ::= SEQUENCE { |  |  |  |
| servingCellConfigCommon SEQUENCE { |  |  |  |
| uplinkConfigCommon SEQUENCE { |  |  |  |
| initialUplinkBWP SEQUENCE { |  |  |  | |
| rach-ConfigCommon SEQUENCE { |  |  |  | |
| rach-ConfigGeneric SEQUENCE { |  |  |  |
| preambleTransMax | n50 |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  | |
| } |  |  |  | |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-2: RRCReconfiguration (step 1 and 12A, Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.1-13 | | | |
| Information Element | Value/Remark | Comment | Condition |
| RRCReconfiguration ::= SEQUENCE { |  |  |  |
| criticalExtensions CHOICE { |  |  |  |
| rrcReconfiguration SEQUENCE { |  |  |  |
| masterCellGroup | CellGroupConfig |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-3: CellGroupConfig (Table 8.1.4.1.9.1.3.3-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation path: TS 38.508-1 [4], table 4.6.3-19 | | | |
| Information Element | Value/Remark | Comment | Condition |
| CellGroupConfig ::= SEQUENCE { |  |  |  |
| sCellToAddModList SEQUENCE (SIZE (1..maxNrofSCells)) OF SCellConfig { | 1 entry |  |  |
| SCellConfig[1] SEQUENCE { |  | entry 1 |  |
| sCellIndex | 1 |  |  |
| sCellConfigCommon | ServingCellConfigCommon |  |  |
| sCellConfigDedicated | ServingCellConfig |  |  |
| } |  |  |  |
| } |  |  |  |
| sCellToReleaseList | Not present |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-4: ServingCellConfigCommon (Table 8.1.4.1.9.1.3.3-3)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.3-168 | | | |
| Information Element | Value/remark | Comment | Condition |
| ServingCellConfigCommon ::= SEQUENCE { |  |  |  |
| physCellId | Physical layer cell identity of NR Cell 3 |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-5: RRCReconfiguration (steps 3 and 14, Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.1-13 and condition NR\_MEAS | | | |
| Information Element | Value/remark | Comment | Condition |
| RRCReconfiguration ::= SEQUENCE { |  |  |  |
| criticalExtensions CHOICE { |  |  |  |
| rrcReconfiguration SEQUENCE { |  |  |  |
| measConfig | MeasConfig | Table 8.1.4.1.9.1.3.3-6 |  |
| nonCriticalExtension SEQUENCE { |  |  |  |
| masterCellGroup | CellGroupConfig | Table 8.1.4.1.9.1.3.3-9A |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-6: MeasConfig (Table 8.1.4.1.9.1.3.3-5)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation path: TS 38.508-1[4], table 4.6.3-69 | | | |
| Information Element | Value/Remark | Comment | Condition |
| measConfig ::= SEQUENCE { |  |  |  |
| measObjectToAddModList SEQUENCE (SIZE (1..maxNrofMeasId)) OF MeasObjectToAddMod { | 2 entries |  |  |
| MeasObjectToAddMod[1] SEQUENCE { |  | entry 1 |  |
| measObjectId | 1 |  |  |
| measObject CHOICE { |  |  |  |
| measObjectNR | MeasObjectNR-f1 | NR Cell 1 |  |
| } |  |  |  |
| } |  |  |  |
| MeasObjectToAddMod[2] SEQUENCE { |  | entry 2 |  |
| measObjectId | 2 |  |  |
| measObject CHOICE { |  |  |  |
| measObjectNR | MeasObjectNR-f2 | NR Cell 3 |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| reportConfigToAddModList SEQUENCE(SIZE (1..maxReportConfigId)) OF ReportConfigToAddMod { | 1 entry |  |  |
| ReportConfigToAddMod[1] SEQUENCE { |  | entry 1 |  |
| reportConfigId[1] | 1 |  |  |
| reportConfig[1] CHOICE { |  |  |  |
| reportConfigNR | ReportConfigNR-A3 |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| measIdToAddModList SEQUENCE (SIZE (1..maxNrofMeasId)) OF MeasIdToAddMod { | 1 entry |  |  |
| MeasIdToAddMod[1] SEQUENCE { |  | entry 1 |  |
| measId | 1 |  |  |
| measObjectId | 2 |  |  |
| reportConfigId | 1 |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-7: *MeasObjectNR*-f1 (Table 8.1.4.1.9.1.3.3-6)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], Table 4.6.3-76 | | | |
| Information Element | Value/remark | Comment | Condition |
| MeasObjectNR::= SEQUENCE { |  |  |  |
| ssbFrequency | Downlink ARFCN of NR Cell 1 SSB |  |  |
| absThreshSS-BlocksConsolidation | Not present |  |  |
| nrofSS-BlocksToAverage | Not present |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-8: *MeasObjectNR*-f2 (Table 8.1.4.1.9.1.3.3-6)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], Table 4.6.3-76 | | | |
| Information Element | Value/remark | Comment | Condition |
| MeasObjectNR::= SEQUENCE { |  |  |  |
| ssbFrequency | Downlink ARFCN of NR Cell 3 SSB |  |  |
| absThreshSS-BlocksConsolidation | Not present |  |  |
| nrofSS-BlocksToAverage | Not present |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-9: *ReportConfigNR-A3* (Table 8.1.4.1.9.1.3.3-6)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.3-142 with condition EVENT\_A3 | | | |
| Information Element | Value/remark | Comment | Condition |
| ReportConfigNR::= SEQUENCE { |  |  |  |
| reportType CHOICE { |  |  |  |
| eventTriggered SEQUENCE { |  |  |  |
| eventId CHOICE { |  |  |  |
| eventA3 SEQUENCE { |  |  |  |
| a3-Offset CHOICE { |  |  |  |
| rsrp | 2 | 1 dB (2\*0.5 dB) | FR1 |
|  | FFS |  | FR2 |
| } |  |  |  |
| timeToTrigger | ms2560 |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-9A: *CellGroupConfig* (Table 8.1.4.1.9.1.3.3-5)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], Table 4.6.3-19 with condition MEAS | | | |
| Information Element | Value/remark | Comment | Condition |
| CellGroupConfig ::= SEQUENCE { |  |  |  |
| sCellToAddModList SEQUENCE (SIZE (1..maxNrofSCells)) OF SCellConfig { | 1 entry |  |  |
| SCellConfig[1] SEQUENCE { |  | entry 1 |  |
| sCellIndex | SCellIndex of Cell 3 |  |  |
| sCellConfigDedicated | ServingCellConfig | Table 8.1.4.1.9.1.3.3-9B |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-9B: *ServingCellConfig* (Table 8.1.4.1.9.1.3.3-9A)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.331 [6], Table 4.6.3-167 with condition MEAS | | | |
| Information Element | Value/remark | Comment | Condition |
| ServingCellConfig ::= SEQUENCE { |  |  |  |
| servingCellMO | 2 |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-10: *MeasurementReport* (steps 6 and 17, Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.1-5A | | | |
| Information Element | Value/remark | Comment | Condition |
| MeasurementReport ::= SEQUENCE { |  |  |  |
| criticalExtensions CHOICE { |  |  |  |
| measurementReport SEQUENCE { |  |  |  |
| measResults SEQUENCE { |  |  |  |
| measResultServingMOList | Not checked |  |  |
| measResultNeighCells CHOICE { | 1 entry |  |  |
| measResultListNR SEQUENCE (SIZE (1..maxCellReport)) OF MeasResultNR { |  |  |  |
| MeasResultNR[1] SEQUENCE { |  | entry 1 |  |
| physCellId | PhysCellId of NR Cell 3 |  |  |
| measResult SEQUENCE { |  |  |  |
| cellResults SEQUENCE { |  |  |  |
| resultsSSB-Cell SEQUENCE { |  |  |  |
| rsrp | (0..127) |  |  |
| rsrp | (0..127) |  |  |
| sinr | (0..127) |  |  |
| } |  |  |  |
| resultsCSI-RS-Cell | Not present |  |  |
| } |  |  |  |
| rsIndexResults | Not present |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-11: RRCReconfiguration (steps 7 and 18, Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1[4], table 4.6.1-13 with condition NR | | | |
| Information Element | Value/Remark | Comment | Condition |
| RRCReconfiguration ::= SEQUENCE { |  |  |  |
| criticalExtensions CHOICE { |  |  |  |
| rrcReconfiguration SEQUENCE { |  |  |  |
| nonCriticalExtension SEQUENCE { |  |  |  |
| masterCellGroup | CellGroupConfig |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-12: CellGroupConfig (Table 8.1.4.1.9.1.3.3-11)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation path: TS 38.508-1 [4] table 4.6.3-19 with condition PCell\_Change | | | |
| Information Element | | Value/remark | Comment | Condition |
| CellGroupConfig ::= SEQUENCE { | |  |  |  |
| spCellConfig SEQUENCE { | |  |  |  |
| reconfigurationWithSync SEQUENCE { | |  |  |  |
| spCellConfigCommon SEQUENCE { | |  |  |  |
| physCellId | | PhysCellId of NR Cell 3 |  |  |
| downlinkConfigCommon SEQUENCE { | |  |  |  |
| frequencyInfoDL SEQUENCE { | |  |  |  |
| absoluteFrequencySSB | | Downlink ARFCN of NR Cell 3 SSB |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| rach-ConfigDedicated CHOICE { | |  |  |  |
| uplink SEQUENCE { | |  |  |  |
| cfra SEQUENCE { | |  |  |  |
| resources CHOICE { | |  |  |  |
| ssb SEQUENCE { | |  |  |  |
| ssb-ResourceList SEQUENCE (SIZE(1..maxRA-SSB-Resources)) OF CFRA-SSB-Resource { | | 1 entry |  |  |
| CFRA-SSB-Resource[1] SEQUENCE { | |  | entry 1 |  |
| ra-PreambleIndex | | 63 |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| } | |  |  |  |
| sCellToReleaseList SEQUENCE (SIZE (1..maxNrofSCells)) OF SCellIndex { | | 1 entry |  |  |
| SCellIndex[1] | | 1 | entry 1  SCellIndex of NR Cell 3 |  |
| } | |  |  |  |
| } | |  |  |  |

Table 8.1.4.1.9.1.3.3-13: *RRCReestablishmentRequest* (steps 9 and 20, Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.1-12 | | | |
| Information Element | Value/remark | Comment | Condition |
| RRCReestablishmentRequest ::= SEQUENCE { |  |  |  |
| ue-Identity SEQUENCE { |  |  |  |
| physCellId | PhysCellId of NR Cell 1 |  |  |
| } |  |  |  |
| reestablishmentCause | handoverFailure |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-14: *RRCReestablishment* (steps 10 and 21, Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |
| --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.1-10 | | | |
| Information Element | Value/remark | Comment | Condition |
| RRCReestablishment ::= SEQUENCE { |  |  |  |
| criticalExtensions CHOICE { |  |  |  |
| rrcReestablishment SEQUENCE { |  |  |  |
| nextHopChainingCount | 0 |  |  |
| } |  |  |  |
| } |  |  |  |
| } |  |  |  |

Table 8.1.4.1.9.1.3.3-15: RRCReconfiguration (step 12, Table 8.1.4.1.9.1.3.2-2)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.1-13 with condition REEST | | | | | | | |
| Information Element | | Value/remark | | Comment | | Condition | |
| RRCReconfiguration ::= SEQUENCE { | |  | |  | |  | |
| criticalExtensions CHOICE { | |  | |  | |  | |
| rrcReconfiguration ::= SEQUENCE { | |  | |  | |  | |
| nonCriticalExtension ::= SEQUENCE { | |  | |  | |  | |
| masterCellGroup | | CellGroupConfig with condition SCell\_add and REEST | |  | |  | |
| } | |  | |  | |  | |
| } | |  | |  | |  | |
| } | |  | |  | |  | |
| } | |  | |  | |  | |

Table 8.1.4.1.9.1.3.3-16: RRCReconfiguration (step 23, Table 8.1.4.1.9.1.3.2-2)

|  |
| --- |
| Derivation Path: TS 38.508-1 [4], table 4.6.1-13 with condition REEST |

###### 8.1.4.1.9.2 NR CA / Intra NR handover / Failure / Re-establishment successful / Inter-band CA

8.1.4.1.9.2.1 Test Purpose (TP)

Same as TC 8.1.4.1.9.1 but applied to Inter-band CA case

8.1.4.1.9.2.2 Conformance requirements

Same as TC 8.1.4.1.9.1 but applied to Inter-band CA case

8.1.4.1.9.2.3 Test Description

8.1.4.1.9.2.3.1 Pre-test conditions

Same as test case 8.1.4.1.9.1 with the following differences:

- CA configuration: Inter-band CA replaces Intra-band Contiguous CA.

- Cells configuration: NR Cell 10 replaces NR Cell 3.

- NR Cell 10 is an Inactive SCell according to TS 38.508-1 [4] clause 6.3.1.

8.1.4.1.9.2.3.2 Test procedure sequence

Same as test case 8.1.4.1.9.1 with the following differences:

- CA configuration: Inter-band CA replaces Intra-band Contiguous CA.

- Cells configuration: NR Cell 10 replaces NR Cell 3.

8.1.4.1.9.2.3.3 Specific message contents

Same as TC 8.1.4.1.9.1 but applied to Inter-band CA case

###### 8.1.4.1.9.3 NR CA / Intra NR handover / Failure / Re-establishment successful / Intra-band non-contiguous CA

8.1.4.1.9.3.1 Test Purpose (TP)

Same as TC 8.1.4.1.9.1 but applied to Intra-band non-contiguous CA case

8.1.4.1.9.3.2 Conformance requirements

Same as TC 8.1.4.1.9.1 but applied to Intra-band non-contiguous CA case

8.1.4.1.9.3.3 Test Description

8.1.4.1.9.3.3.1 Pre-test conditions

Same as test case 8.1.4.1.9.1 with the following differences:

- CA configuration: Intra-band Contiguous CA replaces Intra-band non-contiguous CA.

8.1.4.1.9.3.3.2 Test procedure sequence

Same as test case 8.1.4.1.9.1 with the following differences:

- CA configuration: Inter-band CA replaces Intra-band Contiguous CA.

8.1.4.1.9.3.3.3 Specific message contents

Same as TC 8.1.4.1.9.1 but applied to Intra-band non-contiguous CA case