**ö3GPP TSG-RAN2#AH-1801 *Tdoc R2-18xxxxx***

**Vancouver, Canada, 22-26 Jan 2018**

**Agenda Item: x.y**

**Source: Ericsson**

**Title: Review issue list for TS 38.331 EN-DC ASN.1 freeze**

**Version: 0.0**

**Document for: Discussion and decision**

# Introduction

This document provides an overview of list of issues resulting from the review of the PDU specification and related procedure text and field descriptions.

For some issues the proposed solution is indicated as well as the company & Tdoc introducing this in the standard. For some of the issues this document includes further considerations. The following companies volunteered for the review.

“ID” identifies the company, and consists of “X” (<letter>), as “E” for Ericsson.

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# Instructions for RIL and CR storage

RIL and Editorial CR is stored in <ftp://ftp.3gpp.org/Email_Discussions/RAN2/>.

Companies are requested to provide their review comments and change proposals directly in the stored documents (see Classification below). Companies are encouraged to continuously introduce their comments/changes in the RILs/CR, e.g. when one area have been reviewed (and not provide all comments together on the last day).

When storing the documents after providing updates, companies should **add their Company ID** (**one letter**, see section 1) to the file name.

Companies are encouraged to try to resolve collisions. Also the Rapporteur will take an active role in this (and storage/merging problems can be discussed via email). In future reviews, we can potentially use more sophisticated tools.

# Instructions for RIL

**Issue Number (I-No)**

All issues should be numbered in a format Xyyy where

* X is the unique ID (<letter>) assigned to each company, see the table in clause 1.
* yyy is a running number starting from 001, i.e. 001, 002, …. 999.
* Ex: “E103”.

To avoid duplicated I-No numbers, companies may use the table very last in this document.

**Description**

Describe the issue in a few words.

**Classification (Class):**

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| Class 1 | Straigthforward clarification/correction will not be included in RIL but company will directly include in “Minor corrections CR”. This can include small things like addition of need codes (as long as relatively straightforward) |
| Class 2 | Small issue i.e. solution requires some discussion but possible to concluded as part of ASN.1 review. Within column Details in the RIL, the company raising the issue is invited to suggest a proposed way forward, that other companies review and if not agreeable may suggest alternatives for. |
| Class 3 | More significant issue, i.e. requiring more extensive analysis by a contribution. Class 3 issues are within the scope of the ASN.1 review (i.e. does not concern more functional aspects). Companies are requested to volunteer for drafting a contribution (CR).  A contribution may address multiple issues, but these should be clearly marked. |
| Class 4 | Issue of type 4 are like type 3, with the exception that the issue is not only adressing ASN.1 aspects but also more functional aspects. Companies are still invited to draft a contribution, but this would be treated in the agenda item covering the concerned related functionality. |

Companies are requested to provide contribution details, to have an overview of the status (in particular regarding which issues are not covered).

**Details (proposed solution/ discussion)**

Mainly relevant for issues of class 2, the cell is intended to discuss/ agree the proposed way forward. The company raising the issue is invited to suggest a proposed way forward, that other companies review and if not agreeable may suggest alternatives for.

Companies are encouraged to descripe solutions in the same manner as they correct issues in CRs, i.e. propose changes that are shown in the same manner using change marks.

It is therefore suggested to use “**simulated change marks**” for the issue reporting, i.e.

* Added parts are marked with underlined red coloured text, e.g. new text .
* Deleted parts are marked with strikethough red coloured text, e.g. ~~delated text.~~
* If there is a need to high-light something by marking text with a colour, e.g. to high-light small changes, it is recommended that yellow colour is used, e.g. spelling error.
* Reason for these “simulated change marks” is to alow for more easy moving/copy/paste without loosing the changes.

Companies are encouraged to comment issues introduced by other companies, both on agreeing or objecting. These comments shall be **tagged with the company name** for easy search. E.g. “Ericsson: We agree”.

**Status/Ref (to be filled in by the Rapporteur)**

Status of the issue, in particular:

Class 2: indicate FFS if no (confirmed) way forward yet

Class 3: indicate company planning to bring a contribution

Class 4: same as 3, but also indicate agenda item

(coding/coloring TBD)

# Conclusion & recommendation

This paper includes a of list of issues resulting from the review of [1]. RAN2 is requested to endorse the status including the solutions proposed.

# References

[1] TS 38.331 RRC specification

# Review issue list (Annex)

#### Foreword

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 1 Scope

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#### 2 References

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F001 | The reference to LTE MAC specification is added, since in 5.3.5.3 it should be refered. | Class 2 | Add a reference: [13] 3GPP TS 36.321: " Evolved Universal Terrestrial Radio Access (E-UTRA) Medium Access Control (MAC); Protocol specification". |  |
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#### 3 Definitions, symbols and abbreviations

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#### 3.1 Definitions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F002 | As proposed by RAN2 chair at RAN#74,   * “RAN” - appropriate for text describing network behaviour over the radio interface * “NR” corresponds to “E-UTRA” in LTE specs - appropriate for cases where the intent was really to refer to the radio access technology * “5G-RAN” corresponds to “E-UTRAN” in LTE specs - appropriate for cases describing network architecture and relation to EPC.   It is proposed to align these terms, “RAN” and “NR” within TS38.331 | Class 3 | For example, in the following sections:  1) 4.2.1 UE states and state transitions including inter RAT  **- RRC\_CONNECTED:**  - The UE stores the AS context.  - Transfer of unicast data to/from UE.  - At lower layers, the UE may be configured with a UE specific DRX.;  - For UEs supporting CA, use of one or more SCells, aggregated with the SpCell, for increased bandwidth;  - For UEs supporting DC, use of one SCG, aggregated with the MCG, for increased bandwidth;  - Network controlled mobility, i.e. handover within NR and to/from E-UTRA.  - The UE:  2) 4.2.1  Figure 4.2.1-2 illustrates an overview of UE state machine and state transitions in NR as well as the mobility procedures supported betweenNG-RAN and E-UTRAN.  ……  The UE state machine, state transition and mobility procedures between NG-RAN and E-UTRAN is FFS.  3) 5.1.2 General requirements  1> set the *rrc-TransactionIdentifier* in the response message, if included, to the same value as included in the message received from gNB that triggered the response message;  ……  1> upon receiving an extension field comprising the entries in addition to the ones carried by the original field (regardless of whether gNB signals more entries in total); apply the following generic behaviour if explicitly stated to be applicable:  4) in some figures, “network” / “RAN” should be changed to “gNB” or “NG-RAN” |  |
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#### 3.2 Abbreviations

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#### 4 General

#### 4.1 Introduction

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#### 4.2 Architecture

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#### 4.2.1 UE states and state transitions including inter RAT

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F003 | For RRC\_INACTIVE, periodical RAN-based notification area update is also supported. However, the current text only talks about RAN-based notification area updates when moving outside the RAN-based notification area. | Class 2 | 2 Options could be considered.  Option 1:  **- RRC\_INACTIVE**:  - A UE specific DRX may be configured by upper layers or by RRC layer;  - UE controlled mobility based on network configuration;  - The UE stores the AS context;  - The UE:  - Monitors a Paging channel;  - Performs neighbouring cell measurements and cell (re-)selection;  - Performs RAN-based notification area updates periodically and when moving outside the RAN-based notification area;  Option 2:  **- RRC\_INACTIVE**:  - A UE specific DRX may be configured by upper layers or by RRC layer;  - UE controlled mobility based on network configuration;  - The UE stores the AS context;  - The UE:  - Monitors a Paging channel;  - Performs neighbouring cell measurements and cell (re-)selection;  - Performs RAN-based notification area updates; |  |
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#### 4.2.2 Signalling radio bearers

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#### 4.3 Services

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#### 4.3.1 Services provided to upper layers

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#### 4.3.2 Services expected from lower layers

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#### 4.4 Functions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F004 | AS integrity protection can also be configured to DRB. | Class 2 | Proposed modification:  - Initial security activation, i.e. initial configuration of AS integrity protection (SRBs, DRBs) and AS ciphering (SRBs, DRBs); |  |
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#### 5 Procedures

#### 5.1 General

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#### 5.1.1 Introduction

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#### 5.1.2 General requirements

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#### 5.2 System information

Only MIB acquisition applicable for EN-DC.

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F005 | As the highlighted yellow text shown, SI means system information including MIB and a number of SIBs:  System Information (SI) is divided into the *MasterInformationBlock* (MIB) and a number of *SystemInformationBlocks* (SIBs) where:  On the other hand, only SIBs other than SIB1 are carriered in SI messages.  If above considernation is agreed, then the use for “SI” and “SI message” should be reviewed. | Class 2: | In some cases SI should be used other than SI message. For example,  5.2.2.4 Actions upon receipt of SI |  |
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#### 5.3 Connection control

#### 5.3.1 Introduction

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#### 5.3.2 Paging

Targeted for completion in June 2018.

#### 5.3.3 RRC connection establihshment

Targeted for completion in June 2018.

#### 5.3.4 Initial security activation

Targeted for completion in June 2018.

#### 5.3.5 RRC reconfiguration

#### 5.3.5.1 General

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#### 5.3.5.2 Initiation

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#### 5.3.5.3 Reception of an RRCReconfiguration by the UE

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F006 | No subclause 5.3.10.9 is specified in the spec. | Class 2 | Add an FFS:  1> if the *RRCReconfiguration* message includes the *otherConfig*:  2> perform the other configuration procedure as specified in the subclause corresponding to “other configuration” [FFS]; |  |
| F007 | In NE-DC, the RA on SpCell of SCG is specified in LTE MAC spec, so the reference should be TS 36.321.  In case of NE-DC, MAC of E-UTRA performs RA procedure, so “NR” is deleted. | Class 2 | 1> else if the UE is operating in NR SA mode:  2> submit the *RRCReconfigurationComplete* message via SRB1 to lower layers for transmission using the new configuration;  2> if *reconfigurationWithSync* was included in *spCellConfig* of an SCG:  3> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];  1> else (NE-DC):  2> submit the *RRCReconfigurationComplete* message via SRB1 to lower layers for transmission using the new configuration;  2> if *reconfigurationWithSync* was included in *spCellConfig* of an SCG:  3> initiate the random access procedure on the SpCell, as specified in TS 36.321 [13];  1> if MAC of a cell group successfully completes a random access procedure triggered above; |  |
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#### 5.3.5.4 Secondary cell group release

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#### 5.3.5.5 Cell Group configuration

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#### 5.3.5.5.1 General

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#### 5.3.5.5.2 Reconfiguration with synch

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F008 | It is understood that “SCells” in the spec should always include PSCell in DC case. Thus, it is proposed to clarify the use of “SCell” within TS38.331. | Class 3 | There are some examples as following:  1) 5.3.5.5.2  1> consider the SCell(s) of this cell group other than PSCell, if configured, to be in deactivated state;  2) 5.5.1,  The measurement procedures distinguish the following types of cells:  1. The serving cell(s) - these are the PCell and optional one or more SCells.  2. Listed cells - these are cells listed within the measurement object(s).  3. Detected cells - these are cells that are not listed within the measurement object(s) but are detected by the UE on the carrier frequency(ies) indicated by the measurement object(s).  3) 6.3.2 Radio resource control information elements – *CellGroupConfig* The *CellGroupConfig* IE is used to configure a master cell group (MCG) or secondary cell group (SCG). MCG comprises of one MAC entity, a set of logical channels with associated RLC entites and of a primary cell (PCell) and one or more secondary cells (SCells). SCG comprises of one MAC entity, a set of logical channels with associated RLC entites and one or more secondary cells (SCells).  4) 6.4 RRC multiplicity and type constraint values  maxNrofServingCells INTEGER ::= 16 -- Max number of serving serving cells per cell group  maxNrofSCells INTEGER ::= 15 -- Max number of secondary serving cells, other than PSCell, per cell group |  |
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#### 5.3.5.5.3 Logical Channel release

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#### 5.3.5.5.4 Logical Channel addition/modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F009 | A sentence in this subclause is redundant | Class 2 | Delete the redundant sentence:  2> else:  3> configure this MAC entity with a logical channel in accordance to the received *mac-LogicalChannelConfig*;  2> associate this logical channel with the PDCP entity identified by *servedRadioBearer;* |  |
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#### 5.3.5.5.5 MAC entity configuration

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#### 5.3.5.5.6 RLF Timers & Constants configuration

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#### 5.3.5.5.7 SpCell Configuration

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#### 5.3.5.5.8 SCell Release

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F010 | SCell release triggered by SCG release is missing. | Class 2 | Add the SCell release case triggered by SCG release  5.3.5.5.8 SCell Release  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;  Editor’s Note: Need to be updated for EN-DC.FFS.  1> if the release is triggered by secondary cell group release:  2> release all SCells that are part of the current secondary cell group configuration.  1> if the release is triggered by RRC connection re-establishment:  2> release all SCells that are part of the current UE configuration. |  |
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#### 5.3.5.5.9 SCell Addition/Modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6 Radio Bearer configuration

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6.1 General

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6.2 SRB release

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6.3 SRB addition/ modification

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6.4 DRB release

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6.5 DRB addition/ modification

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.7 Full configuration

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.8 Security key update

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.9 Reconfiguration failure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.9.1 Integrity check failure

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.9.2 Inability to comply with RRCReconfiguration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.9.3 T304 expiry (Reconfiguration with synch Failure)

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.6 Counter check

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.7 RRC connection re-establishment

Targeted for completion in June 2018.

#### 5.3.8 RRC connection release

Targeted for completion in June 2018.

#### 5.3.9 RRC connection release requested by upper layers

Targeted for completion in June 2018.

#### 5.3.10 Radio resource configuration

Targeted for completion in June 2018.

#### 5.3.11 Radio link failure related actions

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### i5.3.11.1 Detection of physical layer problems in RRC\_CONNECTED

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.11.2 Recovery of physical layer problems

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.11.3 Detection of radio link failure

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.12 UE actions upon leaving RRC\_CONNECTED

Targeted for completion in June 2018.

#### 5.3.13 UE actions upon PUCCH/SRS release request

Targeted for completion in June 2018.

#### 5.4 Inter-RAT mobility

Targeted for completion in June 2018.

#### 5.5 Measurements

#### 5.5.1 Introduction

|  |  |  |  |  |
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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2 Measurement configuration

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.2 Measurement identity removal

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.3 Measurement identity addition/ modification

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.4 Measurement object removal

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.5 Measurement object addition/ modification

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.6 Reporting configuration removal

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.7 Reporting configuration addition/ modification

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.8 Quantity configuration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.9 Measurement gap configuration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.10 Reference signal measurement timing configuration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.3 Performing measurements

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.3.1 General

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.3.2 Layer 3 filtering

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.3.3 Derivation of measurement results

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.4 Measurement report triggering

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.4.1 General

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.4.2 Event A1 (Serving becomes better than threshold)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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|  |  |  |  |  |

#### 5.5.4.3 Event A2 (Serving becomes worse than threshold)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.4.4 Event A3 (Neighbour becomes offset better than PCell/ PSCell)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.4.5 Event A4 (Neighbour becomes better than threshold)

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.4.6 Event A5 (PCell/ PSCell becomes worse than threshold1 and neighbour becomes better than threshold2)

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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|  |  |  |  |  |

#### 5.5.4.7 Event A6 (Neighbour becomes offset better than SCell)

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.5 Measurement reporting

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.5.2 Reporting of beam measurement information

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.6 UE capabilities

#### 5.6.1 UE capability transfer

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.7 Other

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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|  |  |  |  |  |

#### 5.7.1 DL information transfer

Targeted for completion in June 2018.

#### 5.7.2 UL information transfer

Targeted for completion in June 2018.

#### 5.7.3 SCG failure information

#### 5.7.3.1 General

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.7.3.2 Initiation

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.7.3.3 Failure type determination

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.7.3.4 Setting the contents of FailureReportSCGtoOtherRAT

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6 Protocol data units, formats and parameters (ASN.1)

#### 6.1 General

#### 6.1.1 Introduction

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.1.2 Need codes for optional downlink fields

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.2 RRC messages

#### 6.2.1 General message structure

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – NR-RRC-Definitions

#### – BCCH-BCH-Message

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – DL-DCCH-Message

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – UL-DCCH-Message

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.2.2 Message definitions

#### – MIB

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasurementReport

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RRCReconfiguration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RRCReconfigurationComplete

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SIB1

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.3 RRC information elements

#### – SetupRelease Information Element

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.3.1 System information blocks

#### 6.3.2 Radio resource control information elements

#### – *Alpha*

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – DRB-Identity

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – BandwidthPart-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – CellGroupConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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#### – CellIndexList

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ControlResourceIndex

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – CrossCarrierSchedulingConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – CSI-MeasConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – FailureReportSCGtoOtherRAT

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – FrequencyInfoDL

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – FrequencyInfoUL

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – LogicalChannelConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MAC-CellGroupConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasId

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasIdToAddModList

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasObjectEUTRA

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasObjectId

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasObjectNR

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasObjectToAddModList

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasResults

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – PDCCH-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – PDCP-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – PDSCH-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – PhysCellId

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – PUCCH-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – PUSCH-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – Q-OffsetRange

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – QuantityConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RACH-ConfigCommon

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| --- | --- | --- | --- | --- |
| I-No | *Description* | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RACH-ConfigDedicated

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RadioBearerConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ReportConfigId

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ReportConfigNR

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ReportConfigToAddModList

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RLC-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RLF-TimersAndConstants

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SCellIndex

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SchedulingRequest-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SchedulingRequestResource-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SDAP-Config

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SecurityAlgorithmConfig

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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#### – ServCellIndex

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ServingCellConfigCommon

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ServingCellConfigDedicated

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SRB-Identity

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SPS-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SRS-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SubcarrierSpacing

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – TDD-UL-DL-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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|  |  | 2 |  |  |
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#### 6.3.3 UE capability information elements

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.3.4 Other information elements

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.4 RRC multiplicity and type constraint values

#### – Multiplicity and type constraint definitions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7 Variables and constants

#### 7.1 Timers

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.1.1 Timers (Informative)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.1.2 Timer handling

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.2 Counters

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.3 Constants

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.4 UE variables

#### – VarMeasConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – VarMeasReportList

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8 Protocol data unit abstract syntax

#### 8.1 General

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8.2 Structure of encoded RRC messages

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8.3 Basic production

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8.4 Extension

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8.5 Padding

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9 Specified and default radio configurations

#### 9.1 Specified configurations

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2 Default radio configurations

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2.1 SRB configurations

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2.1.1 SRB1/SRB1S

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2.1.2 SRB2/SRB2S

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2.1.3 SRB3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2.2 SRB configurations

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2.2.1 SRB1/SRB1S

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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|  |  |  |  |  |

#### 9.2.2.2 SRB2/SRB2S

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9.2.2.3 SRB3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 10 Generic error handling

#### 10.1 General

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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#### 10.2 ASN.1 violation or encoding error

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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#### 10.3 Field set to a not comprehended value

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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#### 10.4 Mandatory field missing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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#### 10.5 Not comprehended field

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
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#### 11 Radio information related interactions between network nodes

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#### 11.1 General

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#### 11.2 Inter-node RRC messages

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#### 11.2.1 General

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#### 11.2.2 Message definitions

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#### – HandoverCommand

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#### – HandoverPreparationInformation

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#### – SCG-Config

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#### – SCG-ConfigInfo

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#### 11.3 Inter-node RRC information element definitions

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#### – CandidateCellInfoList

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#### 11.4 Inter-node RRC multiplicity and type constraint values

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#### 12 Processing delay requirements for RRC procedures

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#### Annex A (informative): Guidelines, mainly on use of ASN.1

#### A.3.8 Guidelines on use of parameterised SetupRelease type

#### – ParentIE-WithEM

#### – ChildIE1-WithoutEM

#### – ChildIE2-WithoutEM

#### A.6 Guidelines regarding use of need codes

#### Annex <X> (informative): Change history 180

# Sections not part of the review (for information)

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# List of last I-No (Issue Number)

Companies indicate their last used I-No, to avoid duplication.

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| **Company** | **Last used I-No** |
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