3GPP TSG-RAN WG2 Meeting #106 R2-19xxxxx

Reno, USA,13th - 17th May 2019

Source: RAN2 Chairman (Intel)

Title: Proposed Agenda

# 1 Opening of the meeting (9 AM)

## 1.1 Call for IPR

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| The attention of the delegates of this Working Group is drawn to the fact that **3GPP Individual Members have the obligation** under the IPR Policies of their respective Organizational Partners **to inform their respective Organizational Partners of Essential IPRs** they become aware of.  The delegates were asked to take note that they were hereby invited:   * to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP. * to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Statement and the Licensing declaration forms (https://www.etsi.org/images/files/IPR/etsi-ipr-form.doc) |

NOTE: IPRs may be declared to the Director-General or Chairman of the SDO, but not to the RAN WG2 Chairman.

## 1.2 Network usage conditions

The PCG has laid down the following network usage conditions

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| 1. **Users shall not use the network to engage in illegal activities. This includes activities such as copyright violation, hacking, espionage or any other activity that may be prohibited by local laws.**  2. **Users shall not engage in non-work related activities that consume excessive bandwidth** or cause significant degradation of the performance of the network.  Since the network is a shared resource, users should exercise some basic etiquette when using the 3GPP network at a meeting. It is understood that high bandwidth applications such as downloading large files or video streaming might be required for business purposes, but delegates should be strongly discouraged in performing these activities for personal use. Downloading a movie or doing something in an interactive environment for personal use essentially wastes bandwidth that others need to make the meeting effective. The meeting chairman should remind end users that the network is a shared resource; the more one user grabs, the less there is for another. Email and its attachments already take up significant bandwidth (certain email programs are not very bandwidth efficient). In case of need the chair can ask the delegates to restrict IT usage to things that are essential for the meeting itself.  **1. DON’T place your WiFi device in ad-hoc mode**  **2. DON’T set up a personal hotspot in the meeting room**  **3. DO try 802.11a if your WiFi device supports it**  **4. DON’T manually allocate an IP address**  **5. DON’T be a bandwidth hog by streaming video, playing online games, or downloading huge files**  **6. DON’T use packet probing software which clogs the local network (e.g., packet sniffers or port scanners)** |

## 1.3 Other

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| --- |
| In accordance with the Working Procedures it is reaffirmed that:  (i) compliance with all applicable antitrust and competition laws is required;  (ii) timely submissions of work items in advance of TSG or WG meetings are important to allow for full and fair consideration of such matters; and  (iii) the chairman will conduct the meeting with strict impartiality and in the interests of 3GPP |

Note on (i): In case of question please contact your legal counsel.

Note on (ii): WIDs don’t need to be submitted to the RAN2 meeting and will typically not be discussed here either.

# 2 General

THANK YOU to companies that request TDoc numbers and submit contributions early before deadline (really appreciated). Will start to refrain from treating late documents.

## 2.1 Approval of the agenda

A draft schedule for the week is provided as a separate document, distributed via the RAN2 email reflector and made available during the meeting week in the RAN2\Inbox\Chairmans\_Notes folder.

## 2.2 Approval of the report of the previous meeting

## 2.3 Reporting from other meetings

Please find below a summary of the RAN2 impacting items from the this week's RAN#83

## 2.4 Others

Rapporteur changes

Spec former rapporteur proposed new rapporteur

Isolated impact analysis

Note that an isolated impact analysis is required for Rel-8 to Rel-15 CRs from Q3 2018 onwards.

Only corrections where there is a proven problem are allowed for frozen releases (Rel-8 to Rel-15).

RAN2 WG Handbook

Latest version can always be found at ftp://ftp.3gpp.org//sg\_ran/WG2\_RL2/Org/RAN2\_Handbook/

Drafting rules

Note that specification drafting rules in TR 21.801 must be followed when drafting a CR and draft TS/TR.

Latest version can always be found at http://www.3gpp.org/ftp/specs/archive/21\_series/21.801/

Time Budget

The time budget endorsed at RAN-83 is available in RP-190641

Offline discussions during RAN2 meeting

Chairs will allocate a number for offline discussions during the meeting. Create a folder starting with this number within inbox/drafts and use this to share any documents relating to the offline discussion (please use format "[Offline-nnn] ....", i.e. a 3 digit number). Also use this number in the title of any reflector emails relating to this offline discussion. (please use format "[RAN2#106 Offline-nnn]....."). Do not share documents over the reflector during the meeting

Efficient handling of comebacks on Friday

1/ If you need a tdoc number(s) for the outcome of your offline discussion and one is not already allocated in the notes, you must request your number by **Thursday 23:59 local time**. Preferably request your tdoc number(s) as soon as the discussion has progressed enough to know what type of tdoc(s) you need.

2/ If you have been allocated a tdoc number for the outcome of your offline discussion but for some reason you do not intent to provide that tdoc please inform the chairman.

3/ Please double check in the Friday 08:30 version of the chair notes that your comebacks are marked with the comeback marker. If not then please inform the chairman at Friday morning coffee break. If it is not marked then it will not be treated until the very end of the day.

4/ Please do not use # in the filenames of word files - hyperlinks to filenames containing hash do not work.

5/ Document treatment order: Same approach as used at RAN2#105bis will be followed. At 08:25 I will synchronise my PC with the local meeting server (I will not keep my PC constantly synced with the server). At 08:30, I will start from the top of the agenda treating only documents that are available on my PC. Assuming you also sync to the local meeting server at or after this time, everyone will have the document being treated already available on their PC without having to go to the meeting server. Once I reach the bottom of the agenda I will again synchronise my PC and start from the top.

# 3 Incoming liaisons

Note: LSs are moved to the respective agenda items if any.

# 4 Void

# 5 Void

# 6 LTE: Rel-12 and earlier releases

Including corrections related to the following WIs:

(LTE-L23, leading WG: RAN2, REL-8, started: Sep. 06, closed: Dec. 08, WID: RP-080747)

(LTE\_CA-Core, leading WG: RAN1, REL-10, started: Dec. 09, closed: June 11, WID: RP-100661)

(LTE\_UL\_MIMO-Core, leading WG: RAN1, REL-10, started: Dec.09, closed: June 11, WID: RP-100959)

(LTE\_eDL\_MIMO-Core, leading WG: RAN1, REL-10, started: Dec.09, closed: March 11, WID: RP-100196)

(LTE\_Relay-Core, leading WG: RAN1, REL-10, started: Dec. 09, closed: June 11, WID: RP-110911)

(MBMS\_LTE\_enh-Core, leading WG: RAN2, REL-10, started: June 10, closed: March 11, WID: RP-101244)

(MDT\_UMTSLTE-Core, leading WG: RAN2, REL-10, started: Dec. 09, closed: June 11, WID: RP-100360)

(eICIC\_LTE-Core, leading WG: RAN1, REL-10, started: March 10, closed: June 11, WID: RP-100383)

(SONenh\_LTE-Core, leading WG: RAN3, REL-10, started: March 10, closed: June 11, WID: RP-101004)

(LTE\_CA\_enh-Core, leading WG: RAN1, REL-11, started: March 11, closed: Mar.13, WID: RP-121999)

(MBMS\_LTE\_SC-Core, leading WG: RAN2, REL-11, started: June 10, closed: Sep.12, WID: RP-120258)

(LTE\_eDDA-Core, leading WG: RAN2, REL-11, started: March 11, closed: Dec.12, WID: RP-120256)

(LCS\_LTE-NBPS-Core, leading WG: RAN2, REL-11, started: March 09, closed: June. 13, WID: RP-131259)

(eICIC\_enh\_LTE-Core, leading WG: RAN1, REL-11, started: March 11, closed: Dec. 12, WID: RP-120860)

(SPIA\_IDC\_LTE-Core, leading WG: RAN2, REL-11, started: Sep.11, closed: Dec. 12, WID: RP-111355)

(COMP\_LTE\_DL-Core, leading WG: RAN1, REL-11, started: Sep.11, closed: Dec.12, WID: RP-111365)

(COMP\_LTE\_UL-Core, leading WG: RAN1, REL-11, started: Sep.11, closed: Dec.12, WID: RP-111365)

(LTE\_TDD\_add\_subframe, leading WG: RAN1, REL-11, started: March 12; closed: Sep. 12, WID: RP-120384)

(FS\_HetNet\_eMOB\_LTE, leading WG: RAN2, REL-11, started: March 11, closed: Sep. 12, WID: RP-110709)

(LTE\_enh\_dl\_ctrl-Core, leading WG: RAN1, REL-11, started: Dec. 11, closed: Dec. 12, WID: RP-120871)

(LTE\_SC\_enh\_dualC-Core, leading WG: RAN2, REL-12, started: Dec.13, closed: Dec.14, WID: RP-141797)

(LTE\_SC\_enh\_L1-Core, leading WG: RAN1, REL-12, started: Dec.13, closed: Dec.14, WID: RP-132073)

(LTE\_D2D\_Prox-Core, leading WG: RAN1, REL-12, started: Mar.14, closed: Mar.15, WID: RP-142043)

(MBMS\_LTE\_OS-Core, leading WG: RAN2, REL-12, started: Sep.13, closed: Dec.14, WID: RP-140282)

(LTE\_NAICS-Core, leading WG: RAN1, Rel-12, started: Mar 14, closed: Dec.14, WID: RP-140519)

(LC\_MTC\_LTE-Core, leading WG: RAN1, REL-12, started: Jun 13, closed: Dec 14, WID: RP-140522)

(GCSE\_LTE-MBMS\_CM-Core, leading WG: RAN3, started: Sep. 14, closed: Mar. 2015, WID: RP-141035)

(LTE\_CA\_TDD\_FDD-Core, leading WG: RAN1, REL-12, started: Jun 13, closed: Jun 14, WID: RP-140465)

(LCS\_BDS-LTE-Core, leading WG: RAN2, REL-12, started: Mar 13, closed: Dec 13, WID: RP-130416)

(LTE\_eDL\_MIMO\_enh-Core, leading WG: RAN1, REL-12, started: Sep 12, closed: June 14, WID: RP-121416)

(HetNet\_eMOB\_LTE-Core, leading WG: RAN2, REL-12, started: Dec.12, , closed: Sep 14, WID: RP-122007)

(Cov\_Enh\_LTE-Core, leading WG: RAN1, REL-12, started: Jun.13, closed: Jun.14, WID: RP-130833)

(LTE\_TDD\_eIMTA-Core, leading WG: RAN1, REL-12, started: Dec 12, closed: Jun.14, WID: RP-121772)

(SCM\_LTE-Core, leading WG: RAN2, REL-12, started: Mar.14, closed: Sep.14, WID: RP-140434)

Including any LTE corrections related to the following joint UMTS/LTE WIs:

(SIMTC-RAN\_OC-Core, leading WG: RAN2, REL-11, started: Sep.11, closed: Sep. 12, WID: RP-111373)

(eMDT\_UMTSLTE-Core, leading WG: RAN2, REL-11, started: Sep.11, closed: Dec.12, WID: RP-121204)

(SONenh2\_LTE\_UTRA-Core, leading WG: RAN3, REL-11, started: Sep.11, closed: Dec.12, WID: RP-120314)

(rSRVCC-GERAN, leading WG: GERAN2, REL-11, started: Sep.11, closed: Nov.13, WID: GP-111290)

(EHNB\_enh3-Core, leading WG: RAN3, REL-12, started: Sep.12, closed: Dec 13, WID: RP-130741)

(MTCe\_RAN-Core, leading WG: RAN2, REL-12, started: Dec.13, closed: Sep.14, WID: RP-132053)

(UTRA\_LTE\_WLAN\_interw-Core, leading WG: RAN2, REL-12, started: Dec.13, closed: Sep.14, WID: RP-132101)

(LTE\_UTRA\_IncMon-Core, leading: RAN4, REL-12, started: Dec.13, closed: Dec. 14, WID: RP-132061)

Documents in this agenda item will be handled in a break out session

# 7 LTE: Rel-13

## 7.1 WI: Further LTE Physical Layer Enhancements for MTC

(LTE\_MTCe2\_L1-Core, leading WG: RAN1, REL-13; started: Sep. 14, closed: Mar. 16, WID: RP-150492)

Documents in this agenda item will be handled in a break out session

## 7.2 WI: Narrowband IOT

(NB\_IOT-Core; leading WG: RAN1; started: Sep. 15; target: Jun. 16; WID: RP-152284)

Documents in this agenda item will be handled in a break out session

## 7.3 Other LTE Rel-13 WIs

Including corrections related to the following WIs:

(LTE\_LAA-Core, leading WG: RAN1, REL-13; started: June 15, closed: Dec. 15, WID: RP-151045)

(LTE\_CA\_enh\_b5C-Core, leading WG: RAN1, REL-13; started: Dec. 14, closed: Dec. 15, WID: RP-151984)

(LTE\_SC\_PTM-Core, leading WG: RAN2, REL-13; started: June 15, closed: Dec. 15, WID: RP-151110)

(LTE\_eD2D\_Prox-Core, leading WG: RAN2, REL-13; started: Dec. 14, closed: Mar. 16, WID: RP-150441)

(LTE\_MC\_load-Core, leading WG: RAN2, started: Mar. 15, closed: Dec. 15, WID: RP-152181)

(LTE\_dualC\_enh-Core, leading WG: RAN2, started: Mar. 15, closed: Dec. 15, WID: RP-151739)

(LTE\_extDRX-Core; leading WG: RAN2; started: Mar. 15; closed: Mar. 16; WID: RP-150493)

(LTE\_EBF\_FDMIMO-Core; leading WG: RAN1; started: June. 15; closed: Dec. 15; WID: RP-151085)

(LTE\_eMDT2-Core; leading WG: RAN2; started: Sep. 15; closed: Dec 15; WID: RP-151611)

(UTRA\_LTE\_iPos\_enh-Core; leading WG: RAN2; started: Sep. 15; closed: Dec 15; WID: RP-152251)

(LTE\_WLAN\_radio-Core, leading WG: RAN2, started: Mar. 15, closed: Mar. 16, WID: RP-152213)

(LTE\_WLAN\_radio\_legacy-Core; leading WG: RAN2; started: Sep. 15; closed: Mar 15; WID: RP-151615)

Including any LTE corrections related to the following joint UMTS/LTE WIs:

(ACDC-RAN-Core; leading WG: RAN2; REL-13; started: Mar. 15; closed: Dec. 15; RP-150662)

Documents in this agenda item will be handled in a break out session

### 7.3.1 Agreed in principle CRs

### 7.3.2 Others

# 8 LTE Rel-14

## 8.1 WI: LTE based V2X

(LTE\_SL\_V2V-Core; leading WG: RAN1; started: Dec. 15; closed: Sept 16; WID: RP-161603)

(LTE\_V2X-Core, leading WG: RAN1; REL-14; started: June 16; closed: Mar. 17; WID: RP-162519)

Documents in this agenda item will be handled in a break out session

## 8.2 WI: Enhancements of NB-IoT

(NB\_IOTenh-Core; leading WG: RAN1; REL-14; started: June 16; closed: Jun. 17; WID: RP-171060)

Note: SC-PTM for eNB-IoT is handled under 8.12.1

Documents in this agenda item will be handled in a break out session

### 8.2.1 Agreed in principle CRs

### 8.2.2 Others

## 8.3 WI: Further Enhanced MTC for LTE

(LTE\_feMTC-Core; leading WG: RAN1; REL-14; started: June 16; closed: Jun. 17; WID: RP-170532)

Documents in this agenda item will be handled in a break out session

## 8.4 Other LTE Rel-14 WIs

(LTE\_eLAA-Core; leading WG: RAN1; REL-14; started: Dec. 15; closed: Mar. 17; WID:RP-162229)

(LTE\_WLAN\_aggr-Core; leading WG: RAN2; REL-14; started: Mar. 16; closed: Mar. 17; WID: RP-160923)

(LTE\_eMob-Core; leading WG: RAN2; REL-14; started: Mar. 16; closed: Mar. 17; WID:RP-162503)

(UTRA\_LTE\_iPos\_enh2-Core; leading WG: RAN2; REL-14; started: Mar. 16; closed: Dec. 16; WID: RP-162026)

(LTE\_LATRED\_L2-Core; leading WG: RAN2; REL-14; started: Mar. 16; closed: Sep. 16; WID: RP-160667)

(MBMS\_LTE\_enh2-Core; leading WG: RAN1; REL-14; started: Mar. 16; closed: Sep. 17; WID:RP-162231) (LTE\_SRS\_switch; leading WG: RAN1; REL-14; started: Mar.16: closed: Dec. 16; WID: RP-160935)

(LTE\_meas\_gap\_enh-Core; leading WG: RAN4; REL-14; started: Mar. 16; closed: Jun. 17; WID: RP-160912)

(LTE\_high\_speed-Core; leading WG: RAN4; REL-14; started: Dec. 15. 16; closed: Dec. 16; WID: RP-160172)

(LTE\_VoLTE\_ViLTE\_enh; leading WG: RAN2; REL-14; started: Sep. 16; closed: Mar. 17: WID: RP-161856)

(LTE\_UE\_cat\_1Rx-Core; leading WG: RAN4; REL-14; started: Sep. 16; closed: Jun. 17: WID: RP-171149)

(LTE\_UL\_CAP\_enh-Core; leading WG: RAN1; REL-14; started: Mar. 16; closed: Mar. 17: WID: RP-162488)

(LTE\_eFD\_MIMO-Core; leading WG: RAN1; REL-14; started: Mar. 2016; closed: Mar. 17: WID: RP-160623)

(LTE\_MUST-Core; leading WG: RAN1; REL-14; started: Mar. 16; closed: Dec. 16: WID: RP-161019)

(eDECOR-UTRA\_LTE-Core; leading WG: RAN3; REL-14; started: Dec. 16; closed: Mar. 17: WID: RP-162543)

Documents in this agenda item will be handled in a break out session

Including output of email discussion [105bis#23][LTE] – UE capability for eFD-MIMO (Huawei)

### 8.4.1 Agreed in principle CRs

### 8.4.2 Others

# 9 LTE Rel-15

## 9.1 Void

## 9.2 WI: Shortened TTI and processing time for LTE

(LTE\_STTIandPT-core; leading WG: RAN1; REL-15; started: June 16; closed: Sep. 18; WID: RP-171468)

Documents in this agenda item will be handled in a break out session

### 9.2.1 Agreed in principle CRs

### 9.2.2 Others

## 9.3 Void

## 9.4 Void

## 9.5 Further video enhancements for LTE

(LTE\_ViLTE\_enh2-Core; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-181746)

Documents in this agenda item will be handled in a break out session

## 9.6 QoE Measurement Collection for streaming services in E-UTRAN

(LTE\_QMC\_Streaming; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep 18: WID: RP-181640)

Documents in this agenda item will be handled in a break out session

## 9.7 LTE connectivity to 5G-CN

(LTE\_5GCN\_connect-Core; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-181680)

Documents in this agenda item will be handled in a break out session

### 9.7.1 Agreed in principle CRs

### 9.7.2 Others

## 9.8 Positioning Accuracy Enhancements for LTE

(LCS\_LTE\_acc\_enh-Core; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-181298)

Documents in this agenda item will be handled in a break out session

## 9.9 Enhancing CA Utilization

(LTE\_euCA-Core; leading WG: RAN2; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-180561)

Documents in this agenda item will be handled in a break out session

## 9.10 Enhancements on LTE-based V2X Services

(LTE\_eV2X-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-171740)

Documents in this agenda item will be handled in a break out session

### 9.10.1 General

Including incoming LSs

### 9.10.2 Control plane

### 9.10.3 User plane

## 9.11 High capacity stationary wireless and 1024 QAM

(LTE\_1024QAM\_DL-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Mar. 18: WID: RP-181670)

Documents in this agenda item will be handled in a break out session

## 9.12 Enhancements to LTE operation in unlicensed spectrum

(LTE\_unlic-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Jun. 18: WID: RP-180402)

Documents in this agenda item will be handled in a break out session

## 9.13 Further NB-IoT enhancements

(NB\_IOTenh2-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-182114)

Documents in this agenda item will be handled in a break out session

Early Data transmission for NB-IoT and MTC is treated jointly under AI 9.14.1.

Including output of email discussion [105bis#22][NB-IoT R15] Minimum Length of the UL HARQ RTT Timer (DoCoMo)

### 9.13.1 Agreed in principle CRs

### 9.13.2 Others

## 9.14 Even further enhanced MTC for LTE

(LTE\_eMTC4-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Dec. 18: WID: RP-172811)

Documents in this agenda item will be handled in a break out session

### 9.14.0 Agreed in principle CRs

### 9.14.1 Early data transmission

Early Data transmission for NB-IoT and MTC is treated jointly under this AI.

### 9.14.2 Other

## 9.15 Highly Reliable Low Latency Communication for LTE

LTE\_HRLLC-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-181259

Documents in this agenda item will be handled in a break out session

## 9.16 UL data compression in LTE

(LTE\_UDC-Core; leading WG: RAN2; Rel-15; started Sep 17; closed: Sep 18; WID RP-180914)

Documents in this agenda item will be handled in a break out session

## 9.17 Further enhancements to CoMP for LTE

(feCOMP\_LTE-Core; leading WG: RAN1; REL-15; started: Mar. 17; closed: Sep. 18: WID: RP-182004)

Documents in this agenda item will be handled in a break out session

## 9.18 Enhanced LTE Support for Aerial Vehicles

(LTE\_Aerial-Core;leading WG: RAN2; REL-15; started: Dec. 17; closed: Sep. 18: WID:RP-181310)

Documents in this agenda item will be handled in a break out session

## 9.19 Bluetooth/WLAN measurement collection in MDT

(LTE\_MDT\_BT\_WLAN-Core; leading WG: RAN2; REL-15; started: Dec. 17; closed: Sep. 18: WID: RP-181743)

Documents in this agenda item will be handled in a break out session

## 9.20 Increased number of E-UTRAN data bearers

(INOBEARRAN-Core ; leading WG: RAN2; REL-15; started: Dec. 17; closed: Sep. 18: WID: RP-182133)

Documents in this agenda item will be handled in a break out session

## 9.21 Other LTE Rel-15 WIs

This agenda item may be corrections relating to Rel-15 WIs which had no allocated RAN2 time but which might have minor RAN2 impact (e.g. CT/SA WIs for which we have received an LS requesting RAN2 action)

Documents in this agenda item will be handled in a break out session

### 9.21.1 Agreed in principle CRs

### 9.21.2 Others

## 9.22 LTE TEI15 enhancements

Small Technical Enhancements affecting LTE Rel-15 that do not belong to any Rel-15 WI.

This AI is for corrections to items introduced under TEI15. New proposals should be submitted to TEI16 when it time is allocated for it later in the release/

Documents in this agenda item will be handled in a break out session

### 9.22.1 Agreed in principle CRs

### 9.22.2 Others

# 10 WI: New Radio (NR) Access Technology

(NR\_newRAT-Core; leading WG: RAN1; REL-15; started: Mar. 17; target: Dec. 18: WID: RP-181726)

## 10.1 Organisational

Incoming LSs, status from other groups, etc.

## 10.2 Stage 2 and common UP/CP aspects

### 10.2.0 In principle agreed CRs

All in principle agreed CRs for stage 2 EN-DC and SA.

### 10.2.1 Stage 2 corrections for TS 38.300

CRs to correct errors in stage 2 are still appropriate, but CRs to tidy up the specifications or add additional cases covered by stage 3 but not stage 2 are no longer appropriate for Rel-15. As at previous meetings you should discuss your stage 2 CRs with the specification rapporteurs before submission.

### 10.2.2 Stage 2 corrections for TS 37.340

CRs to correct errors in stage 2 are still appropriate, but CRs to tidy up the specifications or add additional cases covered by stage 3 but not stage 2 are no longer appropriate for Rel-15. As at previous meetings you should discuss your stage 2 CRs with the specification rapporteurs before submission.

Including output of email discussion [105bis#05][NR/R15] Measurement gap coordination in EN-DC (Nokia)

### 10.2.3 Positioning

Corrections to both the stage 2 and stage 3 aspects related to positioning. Note in principle agreed CRs on positioning should also be submitted to 10.2.0.

### 10.2.4 Other

## 10.3 Stage 3 user plane

Documents in this agenda item will be handled in the NR user plane break out session

Essential functional corrections.

### 10.3.0 In principle agreed CRs

All in principle agreed CRs for NR stage 3 user plane

### 10.3.1 MAC

### 10.3.2 RLC

### 10.3.3 PDCP

### 10.3.4 SDAP

## 10.4 Stage 3 control plane

### 10.4.0 In principle agreed CRs

All in principle agreed CRs for NR stage 3 control plane

### 10.4.1 NR RRC

#### 10.4.1.3 Connection control procedures

No documents should be submitted to 10.4.1.3. Please submit to 10.4.1.3.x.

##### 10.4.1.3.1 Corrections to L1 Parameters

Including output of email discussion [105bis#06][NR/R15] Channel bandwidth and initial BWP bandwidth (Huawei)

##### 10.4.1.3.2 Corrections to L2 Parameters

##### 10.4.1.3.3 Connection establishment procedure

Access control and establishment cause are discussed in the access control agenda item 10.4.1.3.10

##### 10.4.1.3.4 Connection reconfiguration procedure

Including corrections related to handover (i.e. reconfig with sync)

##### 10.4.1.3.5 Connection re-establishment procedure

##### 10.4.1.3.6 Connection resume procedure and RRC\_INACTIVE state

##### 10.4.1.3.7 Connection release procedure

Including release from connected to inactive and connected to idle.

##### 10.4.1.3.8 Security procedures

Including initial security activation and counter check procedure.

##### 10.4.1.3.10 Access control

##### 10.4.1.3.11 Other

Including RRC processing delay requirements

Including output of email discussion [105bis#07][NR/R15] Need Codes (Intel)

Including output of email discussion [105bis#08][NR/R15] Rapporteur misc. CR to 38.331 (Ericsson)

#### 10.4.1.4 RRM measurements

No documents should be submitted to 10.4.1.4. Please submit to 10.4.1.4.x.

##### 10.4.1.4.1 RRM

Including output of email discussion [105bis#09][NR/R15] Reporting of serving cell and best neighbour cell and sorting of beam (Huawei)

##### 10.4.1.4.2 Measurement gaps

##### 10.4.1.4.3 Inter-RAT measurements

Inter-RAT E-UTRA measurements for the purpose of inter-RAT handover from NR to E-UTRA

##### 10.4.1.4.4 ANR

All cases of ANR (i.e. inter-RAT ANR from E-UTRA, inter-RAT ANR from NR, and intra-RAT ANR within NR) and hence both 36.331 and 38.331 impacts should be discussed in this agenda item.

#### 10.4.1.6 System information

No documents should be submitted to 10.4.1.6. Please submit to 10.4.1.6.x.

##### 10.4.1.6.1 System information content/structure

Corrections to broadcast parameters required for idle mobility should be discussed in 10.4.5.x

##### 10.4.1.6.2 System information procedures

Corrections to SI procedures including stored SI, SI modification, SI scheduling, stored SI, etc but not including on demand SI.

##### 10.4.1.6.3 On demand system information

##### 10.4.1.6.4 System information reception in connected mode

#### 10.4.1.9 Inter-Node RRC messages

### 10.4.2 LTE changes related to NR

No documents should be submitted to 10.4.2. Please submit to 10.4.2.x.

#### 10.4.2.1 RRM measurements

#### 10.4.2.2 Inter-RAT Handover

Including both 36.331 and 38.331 corrections of both inter-RAT HO from NR to LTE and from LTE to NR should be discussed in this AI. Idle mobility from LTE to NR should be discussed in 10.4.5.4

Including capabilities related to inter-RAT handover and redirection involving NR, LTE/eLTE.

Including output of email discussion [105bis#10][NR/R15] SRB handling in full configuration for E-UTRA/EPC to NR handover (Sharp)

Including output of email discussion [105bis#12][NR/R15] Filters used to generate FeatureSets (Ericsson)

#### 10.4.2.3 Others

Other corrections to LTE RRC for EN-DC and SA

### 10.4.4 UE capabilities

Including output of email discussion [105bis#11][NR/R15] UE feature list TR (DOCOMO)

### 10.4.5 Idle/inactive mode procedures

This AI addresses the idle and inactive behaviour specified in 38.304 or 36.304. Other aspects related to inactive (e.g. state transitions or other behaviour triggered by cell reselection, out of coverage, etc) are covered under RRC agenda items (10.4.1.x)

Documents in this agenda item will be handled in a break out session

#### 10.4.5.1 TS

Rapporteur inputs.

#### 10.4.5.2 Cell selection/reselection

Corrections to criteria and rules for cell selection and reselection

#### 10.4.5.3 Idle/inactive paging

Corrections to paging

#### 10.4.5.4 Idle mobility from LTE to NR

Corrections to LTE TS 36.304 on idle mobility from LTE to NR.

## 10.5 Late Drop

### 10.5.0 In principle agreed CRs

All in principle agreed CRs for NR late drop (stage 2 CRs and 38.306 CR only)

### 10.5.1 Stage 2 CRs

### 10.5.2 ASN.1 review for 38.331 and 36.331

No documents should be submitted to 10.4.3. Please submit to 10.4.3.x

### 10.5.2.1 Rapporteur inputs

ASN.1 review documents, plus any other rapporteur inputs related to ASN.1 review. No company contributions should be submitted to this agenda item.

### 10.5.2.2 ASN.1 issue documents

Draft CRs or discussion documents related to issues identified in the ASN.1 review should be submitted to the appropriate agenda item for the functionality impacted. Only documents addressing general issues should be submitted here. In all cases the issue number from the issue list must be included in the title of draft CR or discussion document.

### 10.5.3 Security

### 10.5.4 UE capabilities and capability coordination

Including output of email discussion [105bis#13][NR/late drop] Alignment of number of filters between NR and LTE capability requests (Samsung)

### 10.5.5 Measurements and measurement coordination

Including output of email discussion [105bis#14][NR/late drop] Gap coordination for NE-DC and NR-DC (Ericsson)

### 10.5.6 Other

# 11 Rel-16 NR Work Items

## 11.1 Integrated Access and Backhaul for NR

(NR\_IAB-Core; leading WG: RAN2; REL-16; started: Dec 18; target; Mar 20; WID: RP-190712)

Time budget: 2 TU

Documents in this agenda item will be handled in a break out session

### 11.1.1 Organisational

Including incoming LSs, draft TS, rapporteur inputs, etc

### 11.1.2 Stage-2 and general

Including higher level aspects not specific to Adapt, e.g. that involve both user plane and control plane.

### 11.1.3 Adapt function

Modelling, User plane aspects of adapt layer, Control principles, routing, bearer mapping

### 11.1.4 User plane aspects

User plane aspects not covered above, e.g. support for Lossless, scheduler, QoS, flow control, Other MAC RLC PDCP impacts etc

### 11.1.5 Control plane aspects

Including CP transport, control principles and control plane procedures not covered above e.g. Configuration, RLF detection and recovery, RRC modifications etc.

### 11.1.6 Other

## 11.2 NR-based Access to Unlicensed Spectrum

(NR\_unlic-Core; leading WG: RAN1; REL-16; started: Dec 18; target; Mar 20; WID: RP-190706)

Time budget: 2 TU

Documents in this agenda item will be handled in a break out session

### 11.2.1 User plane

#### 11.2.1.2 MAC

MAC impacts other than RACH

#### 11.2.1.1 RACH

Aspects of 4 step RACH specific to unlicensed operation. Generic discussion of 2 step RACH will take place under the 2 step RACH WI which is due to start from April and discussion of aspects of 2 step RACH specific to unlicensed will be deferred until that WI has made some progress.

#### 11.2.1.3 Other

User plane impacts other than MAC

### 11.2.2 Control plane

#### 11.2.2.1 Inactive and Idle mode

Impacts to 38.304: mobility, paging in idle and inactive modes, system information

#### 11.2.2.2 Connected mode and RRC

General Mobility Aspects: How to find and identify NR-U target cell(s).

Impact to 38.331: RLM/RLF, mobility in connected mode (note that mobility solutions to be covered by the NR Mobility Enh WI are not to be discussed).

#### 11.2.2.3 Other

E.g. system topics for Stand Alone, if any.

### 11.2.3 Other

Including CAPC, general topics covering both CP and UP, organisational

## 11.3 Study on Self Evaluation towards IMT-2020 submission

(FS\_5G\_eval; leading WG: RAN; REL-16; started: Mar. 17; target: Jun. 19: SID: RP-181318)

This agenda item is for submission of any contributions related to the RAN2 aspects of the self-evaluation for the IMT-2020 submission.

## 11.4 NR V2X

(5G\_V2X\_NRSL-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Mar 20; WID: RP-190766)

Time budget: 2 TU

Documents in this agenda item will be handled in a break out session

### 11.4.1 General

Including incoming LSs, rapporteur inputs, etc.

### 11.4.2 L2/3 protocols common to mode 1 and mode 2 resource allocation

Including L2/L3 functionalities and procedures that are applied to both mode-1 and mode-2 or independent of resource allocation modes. Also including output of email discussion [105bis#33][NR/V2X] LCP (Vivo). Note that functionalities specific to QoS support are discussed in 11.4.6.

### 11.4.3 L2/3 protocols for mode 1 resource allocation

Including control and user plane aspects in order to support mode 1 (e.g. RRC procedures, information to be sent to NW/UE, UE behaviours in CP and/or UP, etc.). Note cross-RAT mode 1 resource scheduling is discussed in 11.4.7.

### 11.4.4 L2/3 protocols for mode 2 resource allocation

Including control and user plane aspects in order to support mode 2 (e.g. RRC procedures, information to be sent to NW/UE, UE behaviours in CP and/or UP, etc.). Also including output of email discussion [105bis#31][NR/V2X] Resource pool configuration and selection (ZTE). Note cross-RAT mode 2 resource configuration is discussed in 11.4.7.

### 11.4.5 PC5 RRC procedures and information

Including identification of the required PC5 RRC procedures, information to be sent to peer UE, and UE behaviours, relation with the PC5-S procedures, PC5 RRC security aspects (if we have SA3 response), AS level RLM/RLF for unicast (based on RAN1 response LS), etc. Also including output of email discussion [105bis#32][NRV2X] PC5-RRC signaling (OPPO)

### 11.4.6 L2/3 protocols for QoS support

Including identification of the required L2/3 procedures, information to be sent NW/UE or peer UE, and UE behaviours, etc.

### 11.4.7 L2/3 protocols for cross-RAT resource allocation

Including L2/3 aspects for i) NR sidelink mode 1 scheduling by LTE Uu, ii) NR sidelink mode 2 resource allocation by LTE Uu, iii) LTE sidelink mode 4 resource allocation by NR Uu, and iv) LTE sidelink mode 3 resource allocation by NR Uu

### 11.4.8 Others

Support of simultaneous configuration of mode1 and mode2 (we may need to wait for the complete design of mode1 and mode2), other working group procedures which require RAN2 discussion, etc.

## 11.5 Optimisations on UE radio capability signalling

(RACS-RAN-Core; leading WG: RAN2; REL-16; started: Mar 19; target; Mar 20; SID: RP-190657)

Time budget: 0.5 TU

### 11.5.1 Organisational

Including incoming LSs, rapporteur inputs, running CRs, etc

### 11.5.2 UE radio capability signalling using UE capability identity

### 11.5.3 Segmentation of UE radio capabilities

### 11.5.4 Other

Simple delta signalling proposals are to be discussed only after progress is made on the UE capability identity mechanism, and therefore will not be discussed at this meeting.

## 11.6 Study on NR non-terrestrial network

(FS\_NR\_NTN\_solutions; leading WG: RAN3; REL-16; started: Jun 18; target; Dec 19; SID: RP-190710)

Time budget: 0.5 TU

Documents in this agenda item will be handled in a break out session

### 11.6.1 General

Rapporteur input

Including output of email discussion [105bis#24][NR/NTN] – TP capturing agreements (Thales)

### 11.6.2 Requirements and Scenarios

Contributions on overall requirements and scenario prioritization. Key issues and requirement related to one of the areas identified below should be submitted in those AIs.

### 11.6.3 User Plane

#### 11.6.3.1 MAC Enhancements

Contributions related to MAC enhancements (e.g. DRX, HARQ, RA enhancements) and any other identified issues

Additional timers can be treated in later phases of the work

Impact of HARQ on other procedures and impact of propagation delay to user plane procedures (e.g. RA)

#### 11.6.3.2 RLC Enhancements

Contributions on this topic related to RLC reordering (e.g. timers and SN space) and any other identified issues.

Contributions on this topics will not be treated in RAN2#106 until RAN1 has done some progress

#### 11.6.3.3 PDCP Enhancements

Contributions related to RLC reordering (e.g. timers and SN space) and any other identified issues

Contributions on this topics will not be treated in RAN2#106 until RAN1 has done some progress

### 11.6.4 Control Plane

Including output of email discussion [105bis#25][NR/NTN] – service continuity scenarios (Nokia)

#### 11.6.4.1 Mobility

##### 11.6.4.1.1 Mobility Aspects for GEO

Solutions addressing mobility issues for GEO based systems, including CHO specific aspects related to NTN, and positioning

##### 11.6.4.1.1 Mobility Aspects for LEO

Solutions addressing mobility issues for LEO based systems, including CHO specific aspects related to NTN, and positioning

#### 11.6.4.2 Idle mode

Identify RAN2 specific issues/aspects to address related to tracking area management

Paging capacity analysis and solutions.

Impacts to cell selection reselection.

Contributions should address aspects of LEO and GEO separately (i.e. different sections/proposal within each contribution)

#### 11.6.4.3 Other

## 11.7 NR Industrial Internet of Things (IoT)

(NR\_IIOT-Core; leading WG: RAN2; REL-16; started: Mar 19; target; Mar 20; SID: RP-190728)

Time budget: 2 TU

Documents in this agenda item will be handled in a break out session

### 11.7.1 General

Rapporteur input etc.

### 11.7.2 TSC

#### 11.7.2.1 Accurate reference timing

Accurate reference timing delivery from gNB to UE using broadcast and unicast RRC signalling (with EUTRA Rel-15 signalling solution as baseline) for synchronization requirements defined in TS 22.104)

Including output of email discussion [105bis#18][NR/IIoT] Synchronisation (Nokia)

#### 11.7.2.2 Scheduling Enhancements

Enhancements to satisfy QoS for wireless Ethernet when using TSC traffic patterns and support for TSC message periodicities with non-integer multiple of NR supported CG/SPS periodicities.

#### 11.7.2.3 Ethernet Header Compression

Specify Ethernet header compression based on structure-aware algorithm.

### 11.7.3 Intra-UE prioritization and multiplexing

Intra-UE prioritization and multiplexing. Resource conflicts between dynamic grant (DG) and configured grant (CG) PUSCH and conflicts involving multiple CGs. UL data/control and control/control resource collision according to WID.

### 11.7.4 PDCP duplication enhancements

PDCP duplication with up to 4 RLC entities configured by RRC. Mechanisms or enhancements relating to dynamic control of how a set or subset of configured RLC entities or legs are used for PDCP duplication, duplication activation/deactivation, selective duplication. Impacts of higher-layer multi-connectivity based on SA2 progress and request.

## 11.8 NR Positioning Support

(NR\_pos-Core; leading WG: RAN1; REL-16; started: Mar 19; target; Mar 20; SID: RP-190752)

Time budget: 1 TU

### 11.8.1 Organisational

Including incoming LSs, rapporteur inputs, etc

### 11.8.2 Architecture and protocol aspects

#### 11.8.2.1 Support of NR RAT-dependent positioning

#### 11.8.2.2 Support of SSR phase 2 (PPP-RTK)

#### 11.8.2.3 Broadcast assistance data

#### 11.8.2.4 UE-based positioning study

### 11.8.3 Other

## 11.9 NR mobility enhancements

(NR\_Mob\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: RP-190489)

Time budget: 1.5 TU

### 11.9.1 Organisational

*Including incoming LSs, running CRs, rapporteur inputs, etc*

### 11.9.2 Reduction in user data interruption during handover or SCG change

No documents should be submitted to 11.9.2. Please submit to 11.9.2.x

#### 11.9.2.1 Comparison of DC and non-DC based solutions

Comparison of DC and non-DC based solutions that that require simultaneous connectivity with source cell and target cell. As agreed at RAN2#105bis we will identify the key aspects of the solutions that are common and those that are different. Analysis of the aspects that are different can then be considered in the decision process.

Including output of email discussion [105bis#16][NR/mob enh] Interruption time definition (Samsung)

Including output of email discussion [105bis#15][NR/mob enh] HO interruption solutions (Huawei)

#### 11.9.2.2 Specifics of DC-based solutions

Including further details of DC based solutions (e.g. user plane stack, bearer handling, security key handling, data forwarding, RLM, etc.). Note that documents comparing DC and non-DC, identifying commonalities and differences, etc, should be submitted to AI 11.9.2.1.

#### 11.9.2.3 Specifics of Non-DC-based solutions

Including further details of Non-DC based solutions that require simultaneous connectivity with source cell and target cell (e.g. user plane stack, bearer handling, security key handling, data forwarding, RLM, etc.). Note that documents comparing DC and non-DC, identifying commonalities and differences, etc, should be submitted to AI 11.9.2.1.

#### 11.9.2.4 Other

Including solutions for user data interruption reduction that do not require simultaneous connectivity with source cell and target cell, e.g. RACH-less handover, Rel-14 LTE like MBB, etc

### 11.9.3 Handover robustness improvements

No documents should be submitted to 11.9.3. Please submit to 11.9.3.x

#### 11.9.3.1 Conditional handover

Including further details of CHO procedure, data forwarding, CHO triggering conditions, considerations specific to FR2 operation, release/expiry of CHO configuration, CHO failure handling, etc

#### 11.9.3.2 Fast handover failure recovery

#### 11.9.3.3 Other

### 11.9.4 Other

## 11.10 DC and CA enhancements

(LTE\_NR\_DC\_CA\_enh-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: RP-190452)

Time budget: 1.5 TU

At this meeting first priority will be given to discuss topics that were not progressed at the last meeting (i.e. AI 11.10.4.2 and 11.10.4.3)

### 11.10.1 Organisational

Including incoming LSs, running CRs, rapporteur inputs, etc

### 11.10.2 NR-NR Dual Connectivity

This topic will not be treated in RAN2#106. Waiting for RAN1 progress.

### 11.10.3 Early measurement reporting

Further details of the early measurement reporting for MR-DC, NR-DC, and CA in IDLE, INACTIVE, and CONNECTED mode

Proposals should clearly indicate whether they are a applicable to NR IDLE, NR INACTIVE, LTE IDLE, LTE IDLE with suspended config and LTE INACTIVE

### 11.10.4 Efficient and low latency configuration signalling

Minimizing signalling overhead and latency needed for initial cell setup, additional cell setup and additional cell activation for data transmission. Contributions related to early measurement reporting should not be submitted in this AI.

No documents should be submitted to 11.10.4. Please submit to 11.10.4.x

#### 11.10.4.1 Fast SCell activation

Further details related to direct SCell activation by RRC upon SCell addition or after a handover. Including whether direct SCell activation can be applied to RRC Resume.

#### 11.10.4.2 Measurements and reporting for Fast SCell activation

Contributions should focus on what can speed up activation in terms of CSI reporting prior to or during SCell activation. Including consideration of a "dormant SCell like state" similar LTE (noting the name of any such state (e.g. "dormant") should not be the focus of this discussion).

NOTE: Power saving enhancements related to when/after SCell is activated are in the scope of AI 11.11.4.3

#### 11.10.4.3 SCG Configuration with RRC Resume

Support of CA/DC configuration with RRC resume and scenarios. Discuss whether additional signalling optimizations should be considered (e.g. delta signalling of MCG/SCG SCells)

#### 11.10.4.4 Other

Other enhancements not addressed in the AIs above

### 11.10.5 Fast MCG link Recovery

Support of fast recovery of MCG link e.g. by utilizing the SCG link and split SRBs for recovery during MCG failure while operating under MR-DC

### 11.10.6 Cross-Carrier scheduling with different numerologies

RAN2 aspects related to cross-carrier scheduling, only to be discussed after RAN1 has made some progress.

## 11.11 Study on UE Power Saving in NR

(FS\_NR\_UE\_pow\_sav; leading WG: RAN1; REL-16; started: Jun 18; target; Jun 19; SID: RP-181463)

Time budget: 1 TU

Documents in this agenda item will be handled in a break out session

### 11.11.1 Organisational

Including incoming LSs, skeleton TR, rapporteur inputs, etc

Companies should include TPs associated to proposed solutions directly in the contributions

Including output of email discussion [105bis#26][NR/Power Saving] – TP capturing agreements (CATT)

### 11.11.2 Power saving enhancements of paging procedure

Evaluation on false alarm issue and possible solutions.

Contributions on possible impact of increasing DRX to 10.24s should be submitted here.

### 11.11.3 Efficient transition from RRC\_CONNECTED to RRC\_IDLE/RRC\_INACTIVE

Benefits and solutions on power efficient transition to Idle/Inactive. Stage 3 aspects related to signalling etc, should not be addressed in RAN2#106

Contributions should focus on aspects/enhancements not discussed in other AIs including UE assistance

### 11.11.4 Power saving in RRC\_CONNECTED

Only RAN2 specific aspects that are not stage 3 should be discussed in RAN2#106.

#### 11.11.4.1 PDCCH-based power saving signals/channel

Study the RAN2 impact of RAN1 wake up power saving signal/channel linked to c-DRX.

#### 11.11.4.2 DCI-based power saving adaptation

Study the impact of RAN1 DCI-based mechanism in skipping PDCCH monitoring, go to sleep or switching PDCCH monitoring periodicity.

Including output of email discussion [105bis#27][NR/Power Saving] – PDCCH skipping (CATT)

#### 11.11.4.3 BWP/SCell operation in RRC\_CONNECTED

RAN2 impact of UE adaptation on BWP/SCell operation solutions

“Dormant state” aspects will be discussed in 11.10.4.2 and contributions on this AI should focus on SCell enhancements after SCell is activated.

#### 11.11.4.4 Other

Additional RRC\_CONNECTED enhancements not related to the schemes above, including enhancements to cDRX, UL transmission, UE assistance and RAN2 impacts of UE dynamic adaptation to the maximum number of MIMO layers

Including output of email discussion [105bis#28][NR/Power Savings] – UE assistance (Intel)

### 11.11.5 Power consumption reduction in RRM measurements

Study the feasibility of relaxing serving and neighbour cell measurements for NR UE for idle and connected mode, including L3 beam measurements. Mobility aspects should be taken into account

Including output of email discussion [105bis#29][NR/Power Savings] RRM solutions (MediaTek)

## 11.12 Study on RAN-centric Data Collection and Utilization for LTE and NR

(FS\_LTE\_NR\_data\_collect; leading WG: RAN3; REL-16; started: Jun 18; target; Jun 19; SID: RP-182105)

Time budget: 0.5 TU

Documents in this agenda item will be handled in a break out session

### 11.12.1 General

Including LSs, work plan, rapporteur inputs, running TR

### 11.12.2 MDT

Study on the procedure, signaling and corresponding measurement quantities for MDT

Including output of email discussion [105bis#20][NR/RDCU] TP on NR MDT (CMCC)

Including output of email discussion [105bis#19][NR/RDCU] Dual Connectivity Handling in MDT (Ericsson)

Including output of email discussion [105bis#17][NR/RDCU] Accessibility measurements (Huawei)

### 11.12.3 L1/L2 measurement

Study on the use cases, definition and how to obtain specific L1/L2 measurements

Including output of email discussion [105bis#21][NR/RDCU] TP on L1/L2 measurements (Huawei)

### 11.12.4 Other use cases

Including the new use cases from RAN2 perspective. Try to avoid duplication with RAN3

### 11.12.5 Others

Other aspects need to be studied in RAN2

## 11.13 2-step RACH for NR

(NR\_2step\_RACH-Core; leading WG: RAN1; REL-16; started: Dec 18; target; Mar 20; WID: RP-190711)

Time budget: 1.0 TU

Documents in this agenda item will be handled in a break out session

### 11.13.1 General

Running CRs

Incoming LSs

Including output of email discussion [105bis#30][NR/2-step RACH] - Procedures and mgsB content (ZTE)

### 11.13.2 Contention Resolution and overall procedure

Including ra-ResponseWindow monitoring, successful contention resolution criteria, whether contention resolution ID is in msgB or in a subsequent message, how to transmit the MAC SDU for DL SRB/DRB etc

### 11.13.3 Fallback to 4-step RACH

Including overall procedure for fallback when PRACH is received but PUSCH is not received

### 11.13.4 msgB content and format

Including discussion on the structure and contents for successful response, contents of fallback response etc. NOTE: do not duplicate proposals from the two AIs above. This is meant to discuss the stage 3 details that will result from agreements in AI 11.13.1 and 11.13.3

### 11.13.5 RA resource configuration and selection

Some aspects depend on RAN1 progress. Focus should be on RAN2 related aspects.

Including criteria for selection of 2-step RACH vs 4-step RACH etc

### 11.13.6 Other

Any other topics Including any outstanding RAN2 discussion on msgA contents etc

## 11.14 Single Radio Voice Call Continuity from 5G to 3G

(SRVCC\_NR\_to\_UMTS-Core; leading WG: RAN2; REL-16; started: Dec 18; target; Mar 20; WID: RP-190713)

Time budget: 0.5 TU

### 11.14.1 Organisational

Including incoming LSs, running CRs, rapporteur inputs, etc

### 11.14.2 Inter RAT UTRA measurements

### 11.14.3 Inter-RAT handover to UTRAN for SRVCC

### 11.14.4 Other

## 11.15 Cross Link Interference (CLI) handling and Remote Interference Management (RIM) for NR

(NR\_CLI\_RIM; leading WG: RAN1; REL-16; started: Dec 18; target; Dec 19; WID: RP-190700)

Time budget: 0.5 TU

## 11.16 Other NR Rel-16 WIs/SIs

This agenda item will be used for handling any incoming LSs related to Rel-16 NR but for which there is no existing RAN WI/SI (e.g. LSs from CT/SA requesting RAN2 action) or for which there is no allocated RAN2 time. Contributions related to those incoming LSs may also be submitted here.

Time budget: 0.5 TU

# 12 Rel-16 LTE Work Items

## 12.1 Additional MTC enhancements for LTE

(LTE\_eMTC5-Core; leading WG: RAN1; REL-16; started: Jun 18; target; Mar 20; WID: RP-190770)

Time budget: 2.5 TU

Documents in this agenda item will be handled in a break out session

Some sub-items in 12.1 and 12.2 may be treated jointly.

### 12.1.1 Organisational

Including incoming LSs, rapporteur inputs, running CRs

### 12.1.2 Mobile-terminated (MT) early data transmission (EDT)

MT Early Data transmission for MTC and NB-IoT is treated jointly under this AI.

### 12.1.3 UE-group wake-up signal (WUS)

UE-group wake-up signal (WUS) for MTC is treated jointly with NB-IoT under AI 12.2.3. Do not use this AI for any item that can be discussed jointly.

### 12.1.4 Transmission in preconfigured resources

Transmission in preconfigured resources for MTC is treated jointly with NB-IoT under AI 12.2.4. Do not use this AI for any item that can be discussed jointly.

### 12.1.5 Scheduling multiple DL/UL transport blocks

Scheduling multiple DL/UL transport blocks with or without DCI for SC-PTM and unicast

Scheduling multiple DL/UL transport blocks for MTC and NB-IoT is treated jointly under this AI.

### 12.1.6 Quality report in Msg3

### 12.1.7 MPDCCH performance improvement using CRS

### 12.1.8 Improvements for non-BL UEs

CE mode A and B improvements for non-BL UEs among “enhancements to idle mode mobility”, “UE demodulation performance requirements for 2 RX antennas and full duplex FDD”, “Dual layer DL reception”, “Feedback based on CSI-RS”, “ETWS/CMAS in connected mode”

### 12.1.9 Stand-alone deployment

Enable the use of LTE control channel region for DL transmission (MPDCCH/PDSCH) to BL/CE UEs

### 12.1.10 Mobility Enhancements

Improving the DL RSRP and, RSRQ measurement accuracy, through use of RSS, relaxation of RRM measurements for serving cell for UEs using WUS for at least low mobility UEs

### 12.1.11 Coexistence with NR

Study NR and LTE specifications to identify possible issues related to coexistence of MTC with NR

### 12.1.12 Connection to 5GC

#### 12.1.12.1 Support of eDRX in CM-IDLE and EDT

Support of extended DRX in CM-IDLE

Support of EDT for Data over NAS and UP solution (if concluded to be supported based on outcome of LS exchange with SA2)

Support of eDRX in CM-IDLE and EDT for MTC and NB-IoT are treated jointly under this AI.

#### 12.1.12.2 Support of RRC\_INACTIVE and eDRX in CM-CONNECTED

Support of RRC\_INACTIVE and extended DRX in CM-CONNECTED with RRC\_INACTIVE (support of sleep cycles up to the NAS and SMS retransmission timers)

Support of RRC\_INACTIVE and eDRX in CM-CONNECTED for MTC and NB-IoT are treated jointly under this AI.

#### 12.1.12.3 Other

MTC specific aspects

### 12.1.13 Other

## 12.2 Additional enhancements for NB-IoT

(NB\_IOTenh3-Core; leading WG: RAN1; REL-16; started: Jun 18; target; Mar 20; WID: RP-190757)

Time budget: 2.5 TU

Documents in this agenda item will be handled in a break out session

Some sub-items in 12.1 and 12.2 may be treated jointly.

### 12.2.1 Organisational

Including incoming LSs, draft TS, rapporteur inputs, etc

### 12.2.2 Mobile-terminated (MT) early data transmission (EDT)

Mobile-terminated Early Data transmission for NB-IoT is treated jointly with MTC under AI 12.1.2. Do not use this AI for any item that can be discussed jointly.

### 12.2.3 UE-group wake-up signal (WUS)

UE group wake Up signal for MTC and NB-IoT is treated jointly under this Agenda Item.

### 12.2.4 Transmission in preconfigured resources

Including support for transmission in preconfigured resources in idle and/or connected mode based on SC-FDMA waveform for UEs with a valid timing advance.

Transmission in preconfigured resources for MTC and NB-IoT is treated jointly under this Agenda Item.

### 12.2.5 Scheduling multiple DL/UL transport blocks

Including scheduling multiple DL/UL transport blocks with or without DCI for SC-PTM and unicast

Scheduling multiple DL/UL transport blocks for NB-IoT is treated jointly with MTC under AI 12.1.5. Do not use this AI for any item that can be discussed jointly.

### 12.2.6 Network management tool enhancement

Including SON support for ANR, Random access performance and RLF report

### 12.2.7 Improved multi-carrier operation

Including support of Msg3 quality reporting for non-anchor access.

Including signalling to indicate on a non-anchor carrier for paging a set of subframes which will contain NRS even when no paging NPDCCH is transmitted.

### 12.2.8 Inter-RAT cell selection

Including power efficient NB-IoT mechanism which would assist idle mode inter-RAT cell selection for NB-IoT to and from LTE, LTE-MTC and GERAN

### 12.2.9 Coexistence with NR

Study NR and LTE specifications to identify possible issues related to coexistence of NB-IoT with NR

### 12.2.10 Connection to 5GC

#### 12.2.10.1 Indication of supported CIoT features and other common aspects

Additional information in SIB to indicate supported CIoT features; indication of CIoT features supported by the UE in RRC, and other common aspects for NB-IoT and MTC including UAB, Support of restriction of use of Enhanced Coverage and Delivery of Expected UE Behaviour information to the RAN.

Indication of supported CIoT features and other common aspects for MTC and NB-IoT are treated jointly under this AI.

#### 12.2.10.2 Other

Including support of Inter-UE QoS for data over NAS (resource prioritization between different NB-IoT UEs), signalling to support 5GC in NB-IoT, e.g. RRC establishment, SIBs, and other NB-IoT specific aspects

### 12.2.11 Other

Others

## 12.3 Even further mobility enhancement in E-UTRAN

(LTE\_feMob-Core; leading WG: RAN2; REL-16; started: Jun 18; target; Mar 20; WID: RP-190272)

Time budget: 1 TU

Documents in this agenda item will be handled in a break out session

### 12.3.1 Organizational

Including incoming LSs, running CR proposals and rapporteur inputs (if any)

Including output of email discussion [105bis#34][LTE] Stage-2 CR for feMOB (China Telecom)

### 12.3.2 Reduction in user data interruption during handover

No documents should be submitted to 12.3.2. Please submit to 12.3.2.x.

#### 12.3.2.1 Stage-2 aspects

Including open aspects of the simultaneous connectivity with non-split bearers: Single PDCP modelling at UE side, bearer handling, security key switch, RRC anchoring, data forwarding, RLM, capability coordination, etc.

Contributions dealing with single/dual protocol stack discussion should attempt to point out the technical aspects that are similar between the methods, e.g. the single PDCP modelling option and security handling.

#### 12.3.2.2 Stage-3 aspects

Including details of non-split bearer solutions: Combining simultaneous connectivity with CHO, exact specification impacts, draft CRs illustrating signalling aspects of the solutions,, etc.

### 12.3.3 Handover robustness improvements

No documents should be submitted to 12.3.3. Please submit to 12.3.3.x.

#### 12.3.3.1 Stage-2 aspects of CHO

Including remaining open aspects of conditional handover: Support of CHO and its basic principles, signalling flow, data forwarding, definition of CHO conditions, etc.

#### 12.3.3.2 Stage-3 aspects CHO

Including details of conditional handover procedures: Exact specification impacts, draft CRs illustrating signalling aspects of the solutions, etc.

#### 12.3.3.3 Other mobility robustness solutions than CHO

Including proposals for any other solutions than CHO to improve mobility robustness. Depending on CHO progress, this agenda item may be deprioritized

### 12.3.4 Other

Depending on progress with 12.3.2.x and 12.3.3.x, this agenda item may be deprioritized

## 12.4 Further performance enhancement for LTE in high speed scenario

(LTE\_high\_speed\_enh2-Core; leading WG: RAN4; REL-16; started: Jun 18; target; Sep 19; WID: RP-181482)

Time budget: 0.25 TU

Documents in this agenda item will be handled in a break out session

# 13 Comebacks

This agenda item will be used during the meeting. No documents are supposed to be submitted by delegates.

## 13.1 Breakout sessions

### 13.1.1 Report from Break-Out session

Report from session on Rel-15 LTE, NR idle/inactive mobility, NR RAN data collection SI

R2-19xxxxx Report from Break-Out Session, Vice-Chair (CMCC)

* CBF: Report from Break-Out Session, Vice-Chair (CMCC)

### 13.1.2 Report from Break-Out session

Report from session on NR UP, IAB WI, NR-U WI, NR IIoT SI

R2-19xxxxx Report from Break-Out Session, Vice-Chair (MediaTek)

* CBF: Report from Break-Out Session, Vice-Chair (MediaTek)

### 13.1.3 Report from Break-Out session

Report from session on NB-IoT

R2-19xxxxx Report from Break-Out Session, Session Chair (Huawei)

* CBF: Report from Break-Out Session, Session Chair (Huawei)

### 13.1.4 Report from Break-Out session

Report from session on MTC

R2-19xxxxx Report from Break-Out Session, Session Chair (Ericsson)

* CBF: Report from Break-Out Session, Session Chair (Ericsson)

### 13.1.5 Report from Break-Out session

Report from session on Legacy LTE, Rel-15 LTE, and NR NTN SI, NR power saving SI

R2-19xxxxx Report from Break-Out Session, Session Chair (InterDigital)

* CBF: Report from Break-Out Session, Session Chair (InterDigital)

### 13.1.6 Report from Break-Out session

Report from session on Rel-15 LTE Positioning, Rel-15 and 16 NR Positioning

R2-19xxxxx Report from Break-Out Session, Session Chair (MediaTek)

* CBF: Report from Break-Out Session, Session Chair (MediaTek)

### 13.1.7 Report from Break-Out session

Report from session on LTE V2X and NR V2X

R2-19xxxxx Report from Break-Out Session, Session Chair (Intel)

* CBF: Report from Break-Out Session, Session Chair (Intel)

### 13.1.8 Report from Break-Out session

Report from session on Rel-16 LTE Mobility Enhancements WI

R2-19xxxxx Report from Break-Out Session, Session Chair (Nokia)

* CBF: Report from Break-Out Session, Session Chair (Nokia)

## 13.2 Main session

This section contains a temporary list of comebacks (press F9 to update while the cursor is inside the list).

# 14 Outgoing LSs

Draft LSs should be submitted to their corresponding agenda item if there is one. If there is no appropriate agenda item, draft LSs, and any association discussion documents, may be submitted to this agenda item.

# 15 Any other business

# 16 Closing of the meeting (16:30)