**3GPP TSG-RAN WG3 #127 R3-250360**

**Athens, Greece, Feb 17th – 21st, 2025**

**Source:** **CATT, Ericsson, Huawei, Samsung, China Telecomm, Rakuten, CMCC**

**Title:** **(TP to BLCR for TS 38.300) Introduction of On-demand SIB1**

**Agenda Item:** **17.1**

**Document for:** **Approval**

# 1 Introduction

Based on the agreements achieved during the last RAN3 meeting[1] as well as the approved BLCRs to stage-3 specs[2][3] for on-demand SIB1. The TP to BL CR for TS38.300 to introduce on-demand SIB1 is provided.

# 2 Reference

1. Draft Report of 3GPP TSG RAN3 meeting #126, MCC
2. R3-247897, Introduction of Network Energy Saving Enhancement, Ericsson, Huawei, CMCC, Samsung, Qualcomm, Nokia, ZTE, Lenovo, Deutsche Telekom, NEC, RAN3#126
3. R3-247898, Introduction of Network Energy Saving Enhancement, Huawei, Ericsson, CMCC, Samsung, ZTE, Nokia, Deutsche Telekom, Lenovo, NEC, Jio

# 3 TP to BL CR for TS38.300

---------------------------------------START OF TP -------------------------------------------

## 3.2 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1], in TS 36.300 [2] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1] and TS 36.300 [2].

**2Rx XR UE**: two antenna port XR UE as specified in TS 38.101-1 [18].

**A2X communication**: A communication to support A2X services leveraging PC5 reference points. A2X services are realized by various types of A2X applications, i.e. BRID or DAA.

**Aerial UE communication:** functionality enabling Aerial UE function, as defined in 16.18.

**Air to Ground network:** An NG-RAN consisting of ground-based gNBs, which provide cell towers that send signals up to an aircraft's antenna(s) of onboard ATG terminal, with typical vertical altitude of around 10,000m and take-off/landing altitudes down to 3000m.

**BH RLC channel**: an RLC channel between two nodes, which is used to transport backhaul packets**.**

**Boundary IAB-node:** as defined in TS 38.401 [4].

**Broadcast MRB**:A radio bearer configured for MBS broadcast delivery.

**CAG Cell**:a PLMN cell broadcasting at least one Closed Access Group identity.

**CAG Member Cell**:for a UE, a CAG cell broadcasting the identity of the selected PLMN, registered PLMN or equivalent PLMN, and for that PLMN, a CAG identifier belonging to the Allowed CAG list of the UE for that PLMN.

**CAG-only cell**: a CAG cell that is only available for normal service for CAG UEs.

**Cell-Defining SSB**: an SSB with an RMSI associated.

**Cell A**: a cell which provides coverage in the serving area of a NES cell.

**Cell A gNB**: a gNB serving a Cell A.

Editor’s note: The definition of Cell A would need to be refined.

**Child node**: IAB-DU's and IAB-donor-DU's next hop neighbour node; the child node is also an IAB-node.

**Conditional Handover (CHO**): a handover procedure that is executed only when execution condition(s) are met.

**CORESET#0**: the control resource set for at least SIB1 scheduling, can be configured either via MIB or via dedicated RRC signalling.

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**NCR-Fwd**: Network-Controlled Repeater node function, which performs amplifying-and-forwarding of UL/DL RF signals between gNB and UE. The behaviour of the NCR-Fwd is controlled according to the side control information received by the NCR-MT from a gNB.

**NCR-Fwd access link**: link used for transmissions between the NCR-Fwd and UEs.

**NCR-Fwd backhaul link**: link used for backhauling between the NCR-Fwd and gNB.

**NCR-MT**: NCR-node entity which communicates with a gNB via a control link to receive side control information. The control link is based on NR Uu interface.

**NCR-node**: RAN node comprising NCR-MT and NCR-Fwd.

**NES Cell**: a cell which applies network energy saving mechanisms including on-demand SIB1.

**NES gNB**: a gNB serving a NES cell.

Editor’s node: The definition of NES cell would need to be refined.

**ng-eNB**: node providing E-UTRA user plane and control plane protocol terminations towards the UE, and connected via the NG interface to the 5GC.

**NG-C**: control plane interface between NG-RAN and 5GC.

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15.4 Support for Energy Saving

15.4.1 General

The aim of this function is to reduce operational expenses through energy savings.

The function allows, for example in a deployment where capacity boosters can be distinguished from cells providing basic coverage, to optimize energy consumption enabling the possibility for an E-UTRA or NR cell providing additional capacity via single or dual connectivity, to be switched off when its capacity is no longer needed and to be re-activated on a need basis, or to support various adaptation techniques in time, frequency, spatial and power domains.

15.4.2 Solution description

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15.4.2.7 Spatial and power domain adaptation

To assist the gNB on muting transceivers and/or adapting transmission power, the UE can be configured to report multiple CSI entries in a CSI report based on two or more sub-configurations, as specified in clause 5.2.1.6 in TS 38.214 [56]. Each sub-configuration corresponds to a spatial domain adaptation pattern (subsets of available spatial elements) and/or a power offset between PDSCH and CSI-RS.

15.4.2.x On-demand SIB1

Energy saving may be achieved by providing SIB1 only on demand. On-demand SIB1 for energy saving foresees a NES gNB to provide UL WUS configuration information of the NES cell to one or more Cell A gNBs over the Xn interface. The Cell A gNB receiving the UL WUS configuration information then broadcasts it in Cell A’s SIB. If the NES Cell decides to stop the Cell A from broadcasting UL WUS configuration, it informs the Cell A over the Xn interface.

END OF TP -------------------------------------------