3GPP TSG-RAN WG2 #11bise Tdoc R2-22xxxxx

Electronic meeting, 2022-01-17 - 2022-01-25

Agenda Item: 9.1.4

Source: Ericsson

Title: Report on [Post116bis-e][312][NBIOT/eMTC R17] Other open issues (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

This document is to lick off below email discussion.

* [Post116bis-e][312][NBIOT/eMTC R17] Other open issues (Ericsson)

**Scope**: Capture open issues on WI objectives led by other WGs

**Intended outcome**: Open issues list in R2-2201797

**Deadline**: short

Agreements in this area are listed below:

### NB-IoT 16-QAM for unicast in UL and DL

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| RAN2#113bis-e agreements:   * Working assumption: For the UE supporting 16-QAM, the L2 buffer size is 12000 bytes. * Working assumption: Support of 16-QAM has separate UE capabilities for DL and UL   RAN2#114-e agreements: None  RAN2#115-e agreements:   * Confirm the working assumption: The support of 16-QAM uses separate UE capabilities for DL and UL. * 16QAM is configured via dedicated signaling separately for UL and DL. * A NPUSCH 16QAM activation indication is needed in PUR configuration.   RAN2#116-e agreements:   * Confirm the working assumption of 12000 bytes for DL 16QAM for NB-IoT |

### 14 HARQ processes in DL for HD-FDD Cat M1 UEs

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| RAN2#113bis-e agreements:   * 14 HARQ activation is configured by dedicated RRC signalling. * Working assumption: No change to current L2 buffer size requirement   RAN2#114-e agreements: None  RAN2#115-e agreements:   * Confirm the working assumption: No change to current L2 buffer size requirement for HD-FDD Cat M1 UEs supporting 14 HARQ processes in DL. |

Paper submitted in RAN2#116bis-e

[R2-2200677](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2200677.zip) On thje open issues for 16QAM for NB-IoT Nokia, Nokia Shanghai Bells discussion Rel-17

[R2-2200683](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2200683.zip) Remaining FFSs on 16QAM for NB-IoT and 1736bits TBS for eMTC ZTE Corporation, Sanechips discussion NB\_IOTenh4\_LTE\_eMTC6-Core

[R2-2201078](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2201078.zip) Support of 16-QAM for unicast in UL and DL in NB-IoT Ericsson discussion Rel-17

[R2-2201449](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2201449.zip) CQI reporting for 16QAM DL Huawei, HiSilicon discussion Rel-17 NB\_IOTenh4\_LTE\_eMTC6-Core

[R2-2201448](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2201448.zip) Introduction of Rel-17 enhancements for NB-IoT and eMTC Huawei, HiSilicon draftCR Rel-17 36.302 16.1.0 B NB\_IOTenh4\_LTE\_eMTC6-Core

# 2 Open Issue List

The resolution proposed is based upon below

1. **Each open issue** should be associated with **suggested treatment/handling**.
   1. **Company input into Pre117-e-offline (i.e. no company tdocs)**
   2. Company tdocs invited.
   3. CR rapporteur handled issue (CR rapporteur will propose resolution as input to next meeting).
   4. Other, e.g. immature area, reference to dependency, unclear status etc.

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| --- | --- | --- | --- | --- |
| Slogan | Open Issue | Criticality | Remark | Resolution |
| CQI Reporting extension for 16 QAM in msg3 | Is CQI Reporting extension for 16 QAM in msg3 should be supported? [[R2-2200677](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2200677.zip)] | low | RAN1 agreed that The channel quality report is not supported in Msg3 in connected mode in Rel-17.  Further, [R2-2200683](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2200683.zip) suggest 16QAM related channel quality report in Msg3 in idle mode is not supported.  We can follow this suggestion and agree that in Rel-17 16QAM related channel quality report in Msg3 in idle mode is not supported. | Company input into Pre117-e-offline (i.e. no company tdocs) |
| supporting 16 QAM for MT EDT | Is 16 QAM for MT EDT supported? [[R2-2200677](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2200677.zip)] | low | Not necessary to consider this optimization in this release; i.e not needed to complete the 16QAM feature in connected mode. | Company input into Pre117-e-offline (i.e. no company tdocs) |
| Trigger for 16QAM | Is trigger for 16QAM needed, if yes which trigger to use | Medium | legacy Downlink Channel Quality Report Command MAC CE can be reused to trigger the 16QAM related channel quality. | CR rapporteur handled issue (CR rapporteur will propose resolution as input to next meeting) |
| Code Points for 16QAM | How to report CQI for 16QAM [[R2-2200677](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2200677.zip)] | medium | For connected mode CQI Reporting for 16 QAM use of R bits or unused code-points of NPDCCH-CQI can be considered. R2-2200093 Rapporteur of the TS from MAC and RRC should consider updating. | CR rapporteur handled issue (CR rapporteur will propose resolution as input to next meeting) |
| Implementation of RAN1 parameterlist | Capturing of RAN1 parameter list and RAN1 agreements | high | TS 36.331 Running CR Rapporteur may check the TP [R2-2201078](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2201078.zip) and RAN1 parameter list and take any missing attributes into account | CR rapporteur handled issue (CR rapporteur will propose resolution as input to next meeting) |
| Field description of ***npusch-MCS*** | *Is field description update as below suggetsed in* [R2-2201078](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2201078.zip) *agreeable?*  *npusch-MCS* Index to tables specified in TS 36.213 [23], Table 16.5.1.2-1 and Table 16.5.1.2-2 for single tone and multi tone respectively, that defines modulation and TBS index for NPUSCH for PUR. In case of pur-UL-16QAM-Config is true, multiTone index is used, for the guardband and standalone modes the 16-QAM MCS index is equal to multiTone + 14, for the inband mode the 16-QAM MCS index is equal to multiTone + 11. | Medium | Instead of using new ASN.1 bits; PUR-UL-16QAM-Config-NB-r17 ::= SEQUENCE {  npusch-MCS-r17 INTEGER (14..21)  } the field description can be updated. TS 36.331 rapporteur can take into consideration | CR rapporteur handled issue (CR rapporteur will propose resolution as input to next meeting) |
| Stage 2 for 16QAM | *How to capture stage2 for 16QAM?* | Medium | Adopt the CR [R2-2201448](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116bis-e/Docs/R2-2201448.zip) | CR rapporteur handled issue (CR rapporteur will propose resolution as input to next meeting) |
| TBS Size | *Support of TBS size 1736 bits with other features* | Low | Check the below proposals in next meeting. **Proposal 2: RAN2 confirm that DL TBS of 1736 bits can be supported in multi-TB scheduling.**  **Proposal 3a: DL TBS of 1736 bits is not supported in SC-PTM.**  **Proposal 3b: DL TBS of 1736 bits is not supported in EDT.** | Company input into Pre117-e-offline (i.e. no company tdocs) |

# Conclusion