**3GPP TSG RAN WG1 #112 R1-2301802**

Athens, Greece, February 27th – March 3rd, 2023

Source: NTT DOCOMO, INC.

Title: Session Notes for R17 UE Features 1

Agenda Item: 8.16.1

**Document for:** **Discussion and Decision**

***8.16 Rel-17 UE features***

**8.16.1 UE features topics 1**

*For discussions on Rel-17 UE features for eIIoT & URLLC, RedCap, UE power saving, coverage enhancement, NB-IoT & eMTC, sidelink, MBS, 5G terrestrial broadcast, UL TX switching, SDT.*

[112-R17-UE\_features\_1] To be used for sharing updates on online/offline schedule, details on what is to be discussed in online/offline sessions, tdoc number of the moderator summary for online session, etc – Hiroki (DOCOMO)

**R1-2301800** Summary#1 on UE features for NR MBS Moderator (NTT DOCOMO, INC.)

**Agreement:**

For FG33-5-1e, FG33-5-2 and FG33-9,

* The reporting type is per band.
* The text in Note column is added as the following.

For TN, the UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands, associated with supported shared and non-shared spectrum respectively. For NTN, UE shall set the capability value consistently for all FDD-FR1 NTN bands.

**Agreement:**

* Reporting type of FG33-5-1f is Per BC.
* Reporting type of FG33-5-1g is Per band.
* Reporting type of FG33-5-1i is Per band.
* Reporting type of FG33-8-1 is Per BC.

**R1-2302022** Summary#2 on UE features for NR MBS Moderator (NTT DOCOMO, INC.)

**Agreement:**

* Remove “, and SPS release PDCCH” from component 1 of FG33-5-1a
* Additionally, following components are added for FG33-5-1 and FG33-5-3
	+ 3. Support of group-common PDCCH/PDSCH with CRC scrambled by G-CS-RNTI(s) for multicast
	+ 4. Support of DCI format 4\_1 with CRC scrambled with G-CS-RNTI for multicast
	+ 5. ACK/NACK-based HARQ-ACK feedback for SPS release associated with G-CS-RNTI

**Agreement:**

Remove “FFS” in Consequence if FG33-3-3a/33-3-3b is/are not supported

**Agreement:**

FGs 33-5-1h and 33-10 are updated as described in the latest 38.306.

* The reporting type is per band.
* The text in Note column is added as the following.

For TN, the UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands, associated with supported shared and non-shared spectrum respectively. For NTN, UE shall set the capability value consistently for all FDD-FR1 NTN bands.

**Agreement:**

* Add following components for FG33-5-1f
	+ One or multiple TB with NACK-only feedback transmitted in PUSCH by transforming into ACK/NACK bits
	+ One or multiple TB with NACK-only feedback transmitted in PUCCH by transforming into ACK/NACK bits when multiplexing with other UCI
	+ A single TB with NACK-only feedback transmitted in PUCCH
	+ multiple TBs with NACK-only feedback transmitted in PUCCH by transforming into ACK/NACK bits
	+ Support of shared PUCCH resource configurations with unicast
* Delete the following components for FG33-5-1f

Support of PTM retransmission associated with G-CS-RNTI for SPS multicast

* Change prerequisite FGs of FG33-5-1f from 33-5-1 to 33-5-1a

**Agreement:**

* The reporting type of FG33-6-1/1a/2/3 is changed from “Per UE” to “Per band”
* The text in Note column is added as the following.

For TN, the UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands, associated with supported shared and non-shared spectrum respectively. For NTN, UE shall set the capability value consistently for all FDD-FR1 NTN bands.

* The prerequisite FGs of FG33-6-1a are changed from “33-6-1” to “33-5-1a, 33-5-1i”

**Agreement:**

* Update the prerequisite for 33-3-2 as “3-2, or at least one of {33-5-1a, 33-5-1f}”
* Update the component 1 description of 33-3-2 as “Support FDM between one dynamically scheduled unicast PDSCH and one dynamically scheduled group-common PDSCH for multicast in RRC CONNECTED mode in a slot.”
* Update the component 2 description of 33-3-3a as “2. Support of Type-2 HARQ-ACK codebooks for multiplexing HARQ-ACK for unicast and HARQ-ACK for multicast on PUCCH or PUSCH with max number X of G-RNTIs/G-CS-RNTIs”
* Update the component 2 description of 33-3-3b as “2. Support of Type-2 HARQ-ACK codebooks for multiplexing HARQ-ACK for unicast and HARQ-ACK for multicast on PUCCH or PUSCH with max number X of G-RNTIs/G-CS-RNTIs”

**Proposal 2-11:**

* **Add following components for FG33-5-1j**
	+ **Single TB with NACK-only feedback transmitted in PUCCH**
	+ **Up to 2TBs with NACK-only feedback transmitted in PUSCH by transforming into ACK/NACK bits**
* **Modify “Multiple” in component 1-a of FG33-5-1j to “Up to 2”**

[R1-2300140](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2300140.zip) Remaining issues for UE features topics 1 Nokia, Nokia Shanghai Bell

[R1-2300202](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2300202.zip) UE features for R17 NR MBS Spreadtrum Communications

[R1-2300337](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2300337.zip) Discussion on UE features for topics 1 ZTE

[R1-2300432](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2300432.zip) Remaining issues on Rel-17 MBS UE features vivo

[R1-2301392](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2301392.zip) Discussion on Rel-17 UE features topic 1 Qualcomm Incorporated

[R1-2301476](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2301476.zip) Discussion on remaining issues regarding Rel-17 RAN1 UE features topics 1 NTT DOCOMO, INC.

[R1-2301615](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2301615.zip) Views on UE feature Topic 1 MediaTek Inc.

[R1-2301677](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2301677.zip) UE capabilities for NR MBS Ericsson

[R1-2301703](file:///C%3A%5CUsers%5Cyounsun%5CDocuments%5C3GPP%20documents%5CRAN1%20tdocs%5CTSGR1_112%5CDocs%5CR1-2301703.zip) Remaining issues for UE features topics 1 Huawei, HiSilicon