**3GPP TSG RAN WG1 #114** **R1-230xxxx**

**Toulouse, France, August 21st – 25th, 2023**

**Agenda item:** 9.17

**Source:** Samsung

**Title:** Summary of email discussions [114-R18-38.213-NR\_NTN\_enh]

**Document for:** Discussion and decision

# Introduction

The purpose of this document is to collect inputs/comments on the draft CR for TS 38.213 [draftCR\_38213 NTN](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_114/Inbox/drafts/9.17%28Other%29/%5B38.213%20draft%20CRs%5D/NR_NTN_enh/R1-230xxxx%20draftCR_38213%20NTN.docx) on the introduction of NR NTN enhancements. If a comment on a particular aspect has been made by another company, please do not repeat it until, if needed, after a response.

The first checkpoint is on September 5, UTC 13:00.

# First Round Discussion

Please provide your comments on the draft CR for TS 38.213 [draftCR\_38213 NTN](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_114/Inbox/drafts/9.17%28Other%29/%5B38.213%20draft%20CRs%5D/NR_NTN_enh/R1-230xxxx%20draftCR_38213%20NTN.docx).

|  |  |
| --- | --- |
| Company | Comments |
| DCM | We think that according to the following agreement reached in this meeting, “a capability or a request” should be “a capability” only.

|  |
| --- |
| AgreementThe working assumption at the RAN1#112 meeting is superseded by the following agreement:For PUCCH repetition for Msg4 HARQ-ACK,* A RSRP threshold can be configured via SIB when the number of repetitions is configured by SIB.
	+ If the RSRP threshold is configured,
		- UE capable of PUCCH repetition for Msg4 HARQ-ACK reports the capability of PUCCH repetition for Msg4 HARQ-ACK only if measured RSRP is lower than the configured RSRP threshold.
	+ If the RSRP threshold is not configured,
		- UE capable of PUCCH repetition for Msg4 HARQ-ACK reports the capability of PUCCH repetition for Msg4 HARQ-ACK
	+ Alt B: New RSRP threshold is introduced.
		- Note: the same value between the new RSRP threshold and the RSRP threshold for R17 Msg3 repetition can be configured by gNB implementation.
		- The range of RSRP threshold for PUCCH repetition for Msg4 HARQ-ACK is the same as the range of the RSRP threshold for R17 Msg3 repetition.
			* FFS signaling details, e.g. whether RSRP threshold for PUCCH repetition for Msg4 HARQ-ACK is signaled as a relative or absolute value
* Note: UE incapable of PUCCH repetition for Msg4 HARQ-ACK transmits neither repetition request nor capability report
* Note 2: RAN1 considers that there is no difference between “repetition request” and “capability report” in earlier RAN1 agreements
 |

Thus, an update is suggested as below.

|  |
| --- |
| 9.2.6 PUCCH repetition procedureA UE that does not have dedicated PUCCH resource configuration and indicates a capability ~~or a request~~ to transmit with repetitions a PUCCH with HARQ-ACK information [11, TS 38.321], determines a number of slots for repetitions of a PUCCH transmission with HARQ-ACK information based on an indication by *numberOfPUCCHforMsg4HARQACK-RepetitionsList*. If *numberOfPUCCHforMsg4HARQACK-RepetitionsList* provides more than one values, the DAI field in a DCI format 1\_0 with CRC scrambled by a TC-RNTI scheduling a PDSCH reception that includes a UE contention resolution identity indicates from the more than one values. The UE transmits each repetition of the PUCCH using frequency hopping as described in Clause 9.2.1. … |

 |
| Nokia, Nokia Shanghai Bell | For the proposed text for section 9.2.6, the preamble is too inclusive, as it is referring to “A UE that does not have dedicated PUCCH resource configuration”. Current agreements are only for PUCCH repetition for Msg4 HARQ-ACK. Nothing more, nothing less. With this way of formulating the preamble, the text will also apply for subsequent PUCCH transmissions until dedicated PUCCH resources have been configured.Additionally, agreement from RAN1#114 does not make a distinction between “repetition request” or “capability indication”, since the UE will only be able to provide an indication of its capability through the Msg3. Hence we would suggest to remove the “repetition request” to better align with current agreements and to have simpler language in the specification text.Proposed formulation of the text is as follows (some removal of text and addition of text suggested):A UE that does not have dedicated PUCCH resource configuration and indicates a capability ~~or a request~~ to transmit with repetitions a PUCCH with HARQ-ACK information for a PDSCH reception that includes a UE contention resolution identity [11, TS 38.321], determines a number of slots for repetitions of a PUCCH transmission with HARQ-ACK information based on an indication by *numberOfPUCCHforMsg4HARQACK-RepetitionsList*. If *numberOfPUCCHforMsg4HARQACK-RepetitionsList* provides more than one values, the DAI field in a DCI format 1\_0 with CRC scrambled by a TC-RNTI scheduling a PDSCH reception that includes a UE contention resolution identity indicates from the more than one values. The UE transmits each repetition of the PUCCH using frequency hopping as described in Clause 9.2.1. In the remaining of this clause, a UE without dedicated PUCCH resource configuration determines a value of a parameter, if applicable, according to Table 9.2.1-1 or as specified above in this clause for a PUCCH transmission with repetitions from the UE. |
|  |  |
|  |  |
|  |  |
|  |  |