**Rel-18 TEI agreements by RAN1#113**

1. Periodicity of the scheduling request

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| AgreementIntroduce 5 and 10 slot periodicities to the periodicityAndOffset in SchedulingRequestResourceConfig for 120 kHz and 5 slot for 30 kHz SCSSent LS to RAN2 about the introduction of these parameters - Mattias (Ericsson)**Decision:** The draft LS [R1-2302152](file:///C%3A%5CUsers%5C5173832%5CAppData%5CLocal%5CTemp%5CDocs%5CR1-2302152.zip) is endorsed in principle with removing repeated “in” the action. Final LS is approved in [R1-2302187](file:///C%3A%5CUsers%5C5173832%5CAppData%5CLocal%5CTemp%5CDocs%5CR1-2302187.zip). |

1. 1-symbol PRS

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| AgreementIntroduce 1-symbol PRS with legacy comb sizes. * UE expects the suitable expected RSTD windows provided by LMF such that peak ambiguity is addressed. Otherwise no measurement accuracy requirements are expected to be met.
* Not to define RAN4 RRM requirement, including core/performance in Rel-18
* Send an LS to RAN2 and RAN3 to ask necessary signalling enhancements

**Decision:** The draft LS [R1-2302200](file:///C%3A%5CUsers%5C5173832%5CAppData%5CLocal%5CTemp%5CDocs%5CR1-2302200.zip) is endorsed in principle. Final LS is approved in [R1-2302201](file:///C%3A%5CUsers%5C5173832%5CAppData%5CLocal%5CTemp%5CDocs%5CR1-2302201.zip).**Agreement**Send the following to RAN2 in response to R1-2304328. Final LS in R1-2306212.

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| RAN1 would like to thank RAN2’s reply R2-2304510(R1-2304328) on 1-symbol PRS.With regard to RAN2’s question, RAN1 thinks the changes to DL PRS configuration used for RTT-based Propagation Delay Compensation are needed. In addition, RAN1 proposes the following note to be added in the *numSymbols* field description:* Note: The UE does not expect to be configured for PDC with a PRS with *numSymbols* equals to n1 unless an SSB index is provided as a Type-C or Type-C & Type-D QCL source, or another PRS resource with *numSymbols* more than 1 is provided as QCL source.

Furthermore, RAN1 does not expect RRM requirements to be defined for 1-symbol PRS in PDC. |

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1. Multi-PUSCH scheduling with single DCI

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| AgreementIntroduce UE feature(s) for multi-PUSCH scheduling with single DCI 0\_1 for non-contiguous slots in FR1 for all defined SCSs* Note: there is no RAN1 impact
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1. Enhancement for HARQ multiplexing on PUSCH

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| **Agreement**If UCI multiplexing of different priorities is not enabled, the restriction on scheduling PDSCH after UL grant is removed for the case of PUSCH with repetitions except the first repetition* UE generates Type-1 HARQ-ACK codebook according to the existing specification with the modification of setting the actual ‘ACK/NACK’ value corresponding to PDSCH(s) scheduled after the UL grant.
* UE generates Type-2/3 HARQ-ACK codebook according to the existing specification.
	+ For Type-2 CB, UL DAI is used for generating HARQ CB.
* This feature is subject to separate UE capabilities for type-1, type-2, and type-3 codebooks.
* RRC parameter(s) to configure the function of scheduling PDSCH after a UL DCI format and multiplexing associated HARQ on a PUSCH repetition except the first repetition are introduced in Rel-18.
* Note: the number of PUSCH repetitions can be scheduled/configured by gNB.
* Note: same principle of current specification which UL DAI in UL grant is applied to each PUSCH repetition is reused.
* The timeline specified in TS 38.213 Clause 9.2.5 are satisfied, i.e. $T\_{proc,1}^{mux}$between the last PDSCH and PUCCH, $T\_{proc,2}^{mux}$ between the last PDCCH among UL grant /DL grant(s) and the earliest PUCCH or PUSCH
* Additional UE capabilities are introduced to support the following functions (UE will be configured by gNB to use the following features via RRC)
	+ HARQ-ACK codebook size change on a PUCCH slot
	+ PUCCH resource change on a PUCCH slot
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1. Pathloss RS for Type 1 CG-PUSCH

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| **Agreement**Rel-18 TEI proposal on pathloss RS for Type 1 CG-PUSCH is agreed. Relevant TP for clause 7.1.1 in TS 38.213 is endorsed in principle* Note: Corresponding UE capability and RRC configuration will be introduced and discussed in future meetings.

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| 7.1.1 UE behaviour……**<Unchanged parts are omitted>**- For a PUSCH transmission configured by *ConfiguredGrantConfig,* if *rrc-ConfiguredUplinkGrant* is included in *ConfiguredGrantConfig*, * if the UE is provided [*enablePL-RS-UpdateForType1CG-PUSCH-SRS*]*,* the UE determines a RS resource index *qd* from the value of *PUSCH-PathlossReferenceRS-Id* that is mapped to the *sri-PUSCH-PowerControlId* indicated by the *srs-ResourceIndicator* value included in *rrc-ConfiguredUplinkGrant*
* if the UE is not provided [*enablePL-RS-UpdateForType1CG-PUSCH-SRS*]*,* a RS resource index *qd* is provided by a value of *pathlossReferenceIndex* included in *rrc-ConfiguredUplinkGrant* where the RS resource is either on serving cell *c* or, if provided, on a serving cell indicated by a value of *pathlossReferenceLinking*
* ……

**<Unchanged parts are omitted>** |

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