# TP#1:

**Proposal: Adopt the following TP for 38.212.**

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| **7.3.1.2.2 Format 1\_1**\*\*\* Unchanged text is omitted \*\*\*- Antenna port(s) – 4, 5, or 6 bits as defined by Tables 7.3.1.2.2-1/2/3/4 and Tables 7.3.1.2.2-1A/2A/3A/4A, where the number of CDM groups without data of values 1, 2, and 3 refers to CDM groups {0}, {0,1}, and {0, 1,2} respectively. The antenna ports  shall be determined according to the ordering of DMRS port(s) given by Tables 7.3.1.2.2-1/2/3/4 or Tables 7.3.1.2.2-1A/2A/3A/4A. When a UE receives an activation command that maps at least one codepoint of DCI field '*Transmission Configuration Indication*' to two TCI states, the UE shall use Table 7.3.1.2.2-1A/2A/3A/4A; otherwise, it shall use Tables 7.3.1.2.2-1/2/3/4. The UE can receive an entry with DMRS ports equals to 1000, 1002, 1003 when two TCI states are indicated in a codepoint of DCI field '*Transmission Configuration Indication*'.\*\*\* Unchanged text is omitted \*\*\* |

# TP#4:

**Proposal: Adopt the following TP for 38.213.**

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| 9.2.3 UE procedure for reporting HARQ-ACKA UE does not expect to transmit more than one PUCCH with HARQ-ACK information in a slot, if the UE is not provided *ackNackFeedbackMode = separate*. \*\*\* Unchanged text is omitted \*\*\* |

# TP#5:

**Proposal: Adopt the following TP for 38.214.**

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| 5.1.5 Antenna ports quasi co-location\*\*\* Unchanged text is omitted \*\*\*Independent of the configuration of *tci-PresentInDCI* and *tci-PresentForDCI-Format1-2-r16* in RRC connected mode, if the offset between the reception of the DL DCI and the corresponding PDSCH is less than the threshold *timeDurationForQCL* and at least one configured TCI state for the serving cell of scheduled PDSCH contains the 'QCL-TypeD', - the UE may assume that the DM-RS ports of PDSCH(s) of a serving cell are quasi co-located with the RS(s) with respect to the QCL parameter(s) used for PDCCH quasi co-location indication of the CORESET associated with a monitored search space with the lowest *controlResourceSetId* in the latest slot in which one or more CORESETs within the active BWP of the serving cell are monitored by the UE. In this case, if the 'QCL-TypeD' of the PDSCH DM-RS is different from that of the PDCCH DM-RS with which they overlap in at least one symbol, the UE is expected to prioritize the reception of PDCCH associated with that CORESET. This also applies to the intra-band CA case (when PDSCH and the CORESET are in different component carriers). \*\*\* Unchanged text is omitted \*\*\* |

# TP#6:

**Proposal: Adopt the following TP for 38.214.**

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| 5.1 UE procedure for receiving the physical downlink shared channel\*\*\* Unchanged text is omitted \*\*\*If a UE is configured by higher layer parameter *PDCCH-Config* that contains two different values of *coresetPoolIndex* in *ControlResourceSet*, the UE may expect to receive multiple PDCCHs scheduling fully/partially/non-overlapped PDSCHs in time and frequency domain. The UE may expect the reception of full/partially-overlapped PDSCHs in time, only when PDCCHs that schedule two PDSCHs are associated to different *ControlResourceSets* having different values of *coresetPoolIndex*. For a *ControlResourceSet* without *coresetPoolIndex*, the UE may assume that the *ControlResourceSet* is assigned with *coresetPoolIndex* as 0. When the UE is scheduled with full/partially/non-overlapped PDSCHs in time and frequency domain, the full scheduling information for receiving a PDSCH is indicated and carried only by the corresponding PDCCH, the UE is expected to be scheduled with the same active BWP and the same SCS. When the UE is scheduled with full/partially-overlapped PDSCHs in time and frequency domain, the UE can be scheduled with at most two codewords simultaneously. When PDCCHs that schedule two PDSCHs are associated to different *ControlResourceSets* having different values of *coresetPoolIndex,* the following operations are allowed: \*\*\* Unchanged text is omitted \*\*\*5.1.2.1 Resource allocation in time domain\*\*\* Unchanged text is omitted \*\*\*When a UE configured by the higher layer parameter *PDSCH-config* that indicates at least one entry contains *repetitionNumber* in *PDSCH-TimeDomainResourceAllocation*, - If two TCI states are indicated by the DCI field 'Transmission Configuration Indication' together with the DCI field 'Time domain resource assignment' indicating an entry which contains *repetitionNumber* in *PDSCH-TimeDomainResourceAllocation* and DM-RS port(s) within one CDM group in the DCI field 'Antenna Port(s)', the same SLIV is applied for all PDSCH transmission occasions across the *repetitionNumber* consecutive slots, the first TCI state is applied to the first PDSCH transmission occasion and resource allocation in time domain for the first PDSCH transmission occasion follows Clause 5.1.2.1.  When the value indicated by *repetitionNumber* in *PDSCH-TimeDomainResourceAllocation* equals to two, the second TCI state is applied to the second PDSCH transmission occasion. When the value indicated by *repetitionNumber* in *PDSCH-TimeDomainResourceAllocation* is larger than two, the UE may be further configured to enable *cyclicMapping* or *sequenticalMapping* in *tciMapping*. - When *cyclicMapping* is enabled, the first and second TCI states are applied to the first and second PDSCH transmission occasions, respectively, and the same TCI mapping pattern continues to the remaining PDSCH transmission occasions. - When *sequenticalMapping* is enabled, first TCI state is applied to the first and second PDSCH transmission occasions, and the second TCI state is applied to the third and fourth PDSCH transmission occasions, and the same TCI mapping pattern continues to the remaining PDSCH transmission occasions. \*\*\* Unchanged text is omitted \*\*\* |

# TP#8:

**Proposal: Adopt the following TP for 38.214.**

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| 5.1.2.3 Physical resource block (PRB) bundling\*\*\* Unchanged text is omitted \*\*\*For a UE configured by the higher layer parameter *RepetitionScheme-r16* set to ‘*FDMSchemeA’ or* ‘*FDMSchemeB’, and* when the UE is indicated with two TCI states in a codepoint of the DCI field *‘Transmission Configuration Indication* and DM-RS port(s) within one CDM group in the DCI field “*Antenna Port(s)*”, - If  is determined as “wideband”, the first $\left⌈\frac{n\_{PRB}}{2}\right⌉$ PRBs are assigned to the first TCI state and the remaining $\left⌊\frac{n\_{PRB}}{2}\right⌋$ PRBs are assigned to the second TCI state, where $n\_{PRB} $is the total number of allocated PRBs for the UE. - If  is determined as one of the values among {2, 4}, even PRGs within the allocated frequency domain resources are assigned to the first TCI state and odd PRGs within the allocated frequency domain resources are assigned to the second TCI state, wherein the PRGs are numbered continuously in increasing order with the first PRG index equal to 0. - The UE is not expected to receive more than two PDSCH transmission layers for each PDSCH transmission occasion.\*\*\* Unchanged text is omitted \*\*\* |