

Agenda Item: 9.8.18

Source: Samsung

Title: On ambiguity in 1024-QAM WID for NR

Document for: Discussion and Decision

- ◇ In RAN1#103-e, there were different understanding among companies on whether “Rel-15” in the WID refers to Rel-15 LTE or Rel-15 NR and despite lengthy email discussions, no consensus was reached

- Specify high order modulation for PDSCH [RAN1] (from the approved 1024-QAM WID in RP-202044)
 - Specify 1024QAM constellation as specified in E-UTRA for DL PDSCH
 - Specify corresponding MCS table with 1024QAM entries as defined in E-UTRA
 - Note: DCI overhead for MCS indication should be the same as in Rel-15
 - Specify corresponding CQI feedback with 1024QAM entries as defined in E-UTRA

- ◇ Due to the ambiguity on how to interpret “Rel-15”, different understanding on DCI overhead for MCS indication is possible

1) If Rel-15 is interpreted as Rel-15 NR, DCI overhead for MCS indication is 5 bits

2) If Rel-15 is interpreted as Rel-15 LTE, DCI overhead for MCS indication is up to 6 bits

➔ Although the difference is only 1 bit, the impact on the design of RAN1 specifications is significant

- ◇ The lack of common understanding in RAN1 is caused due to the ambiguous wording in the WID approved by RAN in RAN#89-e
 - ◆ Without a clear RAN clarification, it is likely that RAN1 will continue to spend time arguing/speculating RAN's intention and possibly not able to complete their work on time
 - ◆ We request that RAN provide a clarification on what “Rel-15” is referring to so that RAN1 can complete its work on time (by RAN1#104-e: February, 2021)

- ◇ Our understanding of what is meant by “Rel-15” is Rel-15 NR not Rel-15 LTE