



Dear all,

In our understanding, exact rule of multiplexing ACK/NACK and CQI on PUSCH should be define in order to complete the part of the uplink control discussion. If we consider CQI alone, current description of multiplexing CQI on PUSCH follows the working assumption '**Control signalling mapped to SC-FDMA symbols next to RS:es.**' agreed in RAN1#50. However, the 'near-RS mapping rule' should take care of both CQI and ACK/NACK. Especially, we think ACK/NACK protection is more important than CQI protection in high speed cases. Currently, we are considering 4 alternatives.

Alternative 1: CQI mapping consecutive to RS + ACK/NACK mapping consecutive to RS by puncturing CQI symbols

Alternative 2: CQI mapping consecutive to RS + ACK/NACK mapping next to CQI by puncturing Data symbols (farther from RS)

Alternative 3: ACK/NACK mapping consecutive to RS + CQI time-first mapping (near-RS mapping is not considered)

Among those 3 alternatives, we currently think the alternative 3 is preferable way considering ACK/NACK protection and simplicity in specifications (R1-080267 has detailed description). Alternative 1B and 2 are also described in detail in R1-080483.

It would be nice if we can start some discussion on control signal multiplexing on PUSCH to get a conclusion during Sorrento meeting.

Best Regards,
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