**Revised Proposal 1.1**: On Rel.17 unified TCI framework:

* Select one of the following alternatives by RAN1#104bis-e for path-loss measurement (PL-RS):
  + Alt1. PL-RS can be included in UL TCI state or (if applicable) joint TCI state.
    - FFS: Whether it is always included or not. If not included, PL-RS is the periodic DL-RS used as a source RS for determining spatial TX filter in UL or (if applicable) joint TCI state.
  + Alt2. PL-RS can be associated with (but not included in) UL TCI state or (if applicable) joint TCI state
    - FFS: Exact association mechanism
    - FFS: Whether it is always associated or not. If not associated, PL-RS is the periodic DL-RS used as a source RS for determining spatial TX filter in UL or (if applicable) joint TCI state
  + Alt3. The periodic DL-RS used as a source RS for determining spatial TX filter can be used as PL-RS. In case the periodic DL-RS used as a source RS for determining spatial TX filter is not used as PL-RS, reuse Rel.16 procedure with the same signaling structure (MAC CE+SRI field in UL-related DCI) to indicate PL-RS for UL transmission with minimum enhancement (e.g. pertaining to the use for PUCCH, or using default PL-RS)
    - PL-RS is not additionally configured in or associated to UL TCI state or (if applicable) joint TCI state
  + Alt4. UE calculates path-loss based on periodic DL RS configured as the source RS or QCL-Type-D/spatialRelationInfo source of the source RS in UL TCI state or (if applicable) joint TCI state
* FFS: Application time of PL-RS
* FFS: Choosing between Alt1 and Alt2 may be up to RAN2 decision
* NOTE: As in Rel-16, a UE does not expect to simultaneously maintain more than four path-loss estimates per serving cell for all PUSCH/PUCCH/SRS transmissions
  + FFS: PL RS configuration and the number of tracking PL RSs for per-panel PC (if supported)

**Proposal 2.1**: On Rel.17 multi beam measurement/reporting enhancements for L1/L2-centric inter-cell mobility and inter-cell mTRP:

* Rel.15 L1-RSRP is used as reporting quantity for measurement and reporting of non-serving-cell(s)
  + Support SSB as a measurement RS for L1/L2-centric inter-cell mobility and inter-cell mTRP, and Rel.15 SS-RSRP calculated from SSB of non-serving cell(s)
    - FFS: Whether the measurement for SS-RSRP is limited within SMTC
    - FFS: Detailed reporting method, e.g. via including existing L1-RSRP report, UE-initiated report etc.
  + FFS: Whether or not to support CSI-RS (for e.g. mobility and/or tracking) of non-serving cell(s) as a measurement RS for L1/L2-centric inter-cell mobility and inter-cell mTRP. If supported, Rel.15 CSI-RSRP is also supported
    - Whether the support applies to CSI-RS with or without QCL source, or both
  + FFS: The number of non-serving cell(s) for measurement/reporting
  + FFS: time behavior of the reporting, i.e. periodic, semi-persistent, or aperiodic
* FFS: If other reporting quantities are supported, e.g. L3-RSRP, hybrid L1/L3-RSRP
* FFS: Dynamic activation/deactivation/selection of the beam measurement on the RS(s) associated with non-serving cell(s) via MAC CE

FFS: Timing assumption for measurement of non-serving cell RS measurement

**Proposal 3.1**: On the Rel.17 DCI-based beam indication, in RAN1#104bis-e, down-select one of the following alternatives regarding the support of DCI format(s) for beam indication in addition to the agreed DCI formats 1\_1/1\_2 with DL assignment (in RAN1#103-e):

* Alt0: No additional DCI format is supported
* Alt1: DCI formats 1\_1 and 1\_2 without DL assignment, applicable for joint TCI as well as separate DL/UL TCI
  + Support DCI acknowledgment mechanism, e.g. based on SPS PDSCH release, based on triggered SRS, based on DCI indicating SCell dormancy
  + FFS: How to identify DCI formats 1\_1/1\_2 used for beam indication only (not for scheduling a PDSCH reception, not indicating a SPS PDSCH release, or not indicating SCell dormancy), considering impacts on PDCCH coverage and scheduling mechanism
  + FFS: Whether the UE can/shall assume the gNB configured application time is after ACK transmission
* Alt2: Dedicated DCI format other than 1\_1/1\_2 without DL assignment, applicable for joint TCI as well as separate DL/UL TCI
  + Support DCI acknowledgment mechanism, e.g. based on SPS PDSCH release, based on triggered SRS, based on DCI indicating SCell dormancy
  + FFS: If the format is based on an existing DCI format, how to identify the DCI format used for beam indication only
  + FFS: Whether the UE can/shall assume the gNB configured application time is after ACK transmission
* Alt3: UL-related DCI formats 0\_1/0\_2 with UL grant, applicable only for UL-only TCI of separate DL/UL TCI

**Revised Proposal 4.1**: On Rel.17 enhancement for facilitating fast uplink panel selection,

* Rel.17 TCI state update (based on MAC CE + DCI, along with the necessary TCI state activation) is used for UE panel selection:
  + FFS: If additional specification support in TCI state definition to accommodate UE panel is needed or not, and if so, the exact scheme
  + FFS: UE panel-specific report, including UE-panel state, e.g. inactive, active for DL/UL measurement, active for UL transmission, or active for both DL/UL measurement and UL transmission
* FFS: Support for NW-initiated UE panel activation
* FFS: UE panel-specific report, including UE-panel state of: inactive, active for DL/UL measurement (i.e., panel activation), or active for UL transmission (i.e., panel selection)
* FFS: Linking or association of UE panels with CSI-RS/SSB resources, SRS resource sets, PUCCH resource groups, etc.

**Proposal 5.1**: On Rel.17 enhancements to facilitate MPE mitigation:

* Decide in RAN1#104bis-e whether the following combinations should be further studied (not necessarily, but can be, in one reporting instance):
  + {Rel.16 P-MPR based (beam/panel-level)} + {A}, where A is either Opt 2 or Opt3
  + {SSBRI(s)/CRI(s) and/or panel indication} + {A}, where A is either Opt1 or Opt2 or both
* Option 1: L1-RSRP [L1-SINR] associated with each of the reported SSBRI(s)/CRI(s) and/or panel indication (if configured)
  + FFS: How panel-level L1-RSRP [L1-SINR] is calculated if L1-RSRP [L1-SINR] is associated with panel
  + FFS: Whether/how to include MPE effect in L1-RSRP [L1-SINR)
  + FFS: Whether/how to enhance existing beam reporting format to support Option 1
* Option 2: Virtual PHR or a modified version associated with each of the reported SSBRI(s)/CRI(s) and/or panel indication (if configured)
* Option 3: Virtual PHR or a modified version associated with each activated UL TCI or, if applicable, joint TCI