**Evaluation results: Plan for RAN1#106-e and future meetings**

* During RAN1#106-e, a moderator (Xiaohang, vivo) will present an excel file that collects companies’ results submitted for RAN1#106-e. Discussions to cross-check companies’ results for clarification/calibration purpose will be conducted in email thread.
* Based on the excel file, RAN1#106-e will start to discuss observations/conclusions to be captured in the TR. Xiaohang will also present a summary of results as well as initial observations from the results.
* Companies who have not submitted results following the excel format are recommended to submit an excel file during RAN1#106-e.
* Companies can submit updated results for the same cases or results for new cases in future meetings and can ask to replace/update their results in the excel file with the new/updated results. In other words, the excel file is a living document that are to be updated in future meetings as necessary.

**Evaluation methodology for XR coverage evaluation**

**Option 1. LLS-based approach**

**Option 2. SLS-based approach discussed in RAN1#105-e**

Coverage is defined to be the A-percentile point in CDF of Coupling gain for the “satisfied” UEs, with #UEs per cell = B, for a given XR application (AR/VR/CG) in a given deployment scenario (DU/InH/UMa)

* A = [5], other value can also be reported
* FFS: Value of B, e.g. B = 1, capacity, etc.
* Note: Coupling gain for coverage evaluation is defined as the ratio of received and transmitted power measured in dB, and includes antenna gains, path loss, shadowing, indoor- or body loss, etc. Example of coupling gain can refer to TR 37.910.

**Option 3. SLS-based approach: a single UE in the entire network**

* For each drop (or simulation),
  + Randomly drop only one UE in the entire network (or in all the cells) that is associated with one of the 3 center cells (or gNBs), i.e., only one of the center gNBs is activated. This is equivalent to randomly locating one UE in a center gNB with the infinity ISD.
  + Calculate coupling gain (detailed formula may follow TR 37.910 – to be discussed and confirmed in RAN1#106-e)
  + Run SLS according to capacity evaluation methodology and determine whether the UE is satisfied or not.
* Definition of the XR coverage
  + [X] % point of the CDF curve of coupling gain for the satisfied UEs for a given application.
* Coverage is evaluated only for UMa – to be discussed and confirmed in RAN1#106-e.

FL propose to discuss the above options and select one during RAN1#106-e.

**Traffic Model**

Discuss the following proposals/observations to facilitate RAN1#106-e discussion.

**Proposal:** α = 1.5 and 3.0 [MTK], 2.0 [Huawei], 1.5 [vivo for GOP-based], 3.0 [vivo for slice-based], …

**Observation:** Longer PDB for I-frames is needed as they have larger file size than P-frames (Di > Dp may provide capacity gain).

**Observation:** Considering the larger importance of I-frame than P-frame, the PER of I-frame can be set equal or smaller than the P-frame.

**Proposal [Huawei]:**

*(X, PDB) values for I-stream and P-stream for DL video*

|  |  |  |
| --- | --- | --- |
| ***Index*** | ***(Packet success rate X%, PDB (ms)) of {I-stream, P-stream} in Option 1A and Option 1B*** | |
| ***VR/AR*** | ***CG*** |
| *1* | *{(99.5, 10), (95, 10)}* | *{(99.5, 15), (95, 15)}* |
| *2* | *{(99, 15), (99, 9)}* | *{(99, 20), (99, 14)}* |
| *3* | *{(99, 10), (95, 10)}* | *{(99, 15), (95, 15)}* |
| *4* | *{(99, 15), (99, 10)}* | *{(99, 20), (99, 15)}* |
| *5* | *{(99, 15), (95, 10)}* | *{(99, 20), (95, 15)}* |

**Proposal [MTK]:**Adopt [PDB\_I, PDB\_P] = [10ms, 10ms] and [17ms, 9ms].

* Equivalent to adopting (G, H) = (10, 10) and (17, 9)

It is noted that for GOP size K=8 in Option 1B, [PDB\_I, PDB\_P] = [10ms, 10ms] and [17ms, 9ms] provide the same average PDB.

**Proposal [MTK]**: Adopt [PER\_I, PER\_P] = [1%, 1%] and [0.5%, 5%]

* Equivalent to adopting (E, F) = (1, 1) and (0.5, 5)