

Agenda item : 9.3.1.6

Source : Samsung

Title : Checkpoint assessment: NCR WI

Document for : Discussion

Background | WID per RP-2222673

The objectives of NR NCR WI follow the recommendations defined in TR 38.867 and will focus on scenarios and assumption listed below:

- ◆ Network-controlled repeaters are inband RF repeaters used for extension of network coverage on FR1 and FR2 bands based on the NCR model in TR38.867
- ◆ For only single hop stationary network-controlled repeaters
- ◆ The NCR is transparent to the UE.
- ◆ Network-controlled repeater can maintain the gNB-repeater link and repeater-UE link simultaneously

With these considerations, NR NCR supports the following features:

Specify the signalling and behavior of the following side control information for controlling the NCR-Fwd [RAN1, RAN2]

- ◆ Beamforming
- ◆ UL-DL TDD operation
- ◆ ON-OFF information

Note: Power control aspect will be checked in RAN#98e.

Specify control plane signalling and procedures [RAN2, RAN1]

- ◆ The configuration of signalling for side control information indication
 - NOTE: Down-selection of solutions in section 7.2 of TR 38.867 is needed

Specify the solution of network-controlled repeater management (i.e., the identification and authorization/validation of NCR) [RAN3, RAN2]

- ◆ NOTE: Down-selection of solutions in section 8 of TR 38.867 is needed taking into account the feedback of other working groups (i.e., SA3 and SA5). From a security point of view, the feasibility of NCR validation procedure in solution 1 and the feasibility of solution 2 will be decided by SA3. The selected solution shall provide inter-vendor interoperability.

Study the RRM functions to be supported and specify the RRM requirements of NCR-MT if necessary [RAN2, RAN4]

Study and specify the RF and EMC requirements of NCR if necessary [RAN4]

Note: The existing requirements defined in RAN4 can be reused if applicable.

Note: The work in RAN4 for beam related is expected to start on FR2 first.

- ◇ There has been no progress on power control during the last two RAN1 meetings
 - ◆ There has been no discussion or agreement on power control during the last two RAN1 meetings
 - ◆ Considering the remaining TU, it is impossible to support power control in NCR

- ◇ **Proposal: revise WID to remove note**
 - ◆ Specify the signalling and behavior of the following side control information for controlling the NCR-Fwd [RAN1, RAN2]
 - Beamforming
 - UL-DL TDD operation
 - ON-OFF information
 - ◆ ~~Note: Power control aspect will be checked in RAN#98e.~~

Conclusion

◇ Proposal: revise WID to remove note

- ◆ Specify the signalling and behavior of the following side control information for controlling the NCR-Fwd [RAN1, RAN2]
 - Beamforming
 - UL-DL TDD operation
 - ON-OFF information
- ~~◆ Note: Power control aspect will be checked in RAN#98e.~~