**3GPP TSG-RAN WG4 Meeting # 97-e R4-201XXXX**

**Electronic Meeting, 2 – 13 Nov., 2020**

**Agenda item:** 7.15.3.2

**Source:** Moderator (Nokia, Nokia Shanghai Bell)

**Title:** Email discussion summary for [97e][327] NR\_HST\_Demod\_BS

**Document for:** Information

# Introduction

*Briefly introduce background, the scope of this email discussion and provide some guidelines for email discussion if necessary.*

*List of candidate target of email discussion for 1st round and 2nd round*

* 1st round: TBA
* 2nd round: TBA

## Background and scope

This T-doc will be used to guide and summarize the email discussion for the topic of Rel-16 NR HST BS demodulation requirements (AI 7.15.3.2), with the email thread identifier “[97e][327] NR\_HST\_Demod\_BS”.

The scope of this email discussion are Rel-16 NR HST BS demodulation requirements, and in particular the agenda items:

7.15.3.2 BS demodulation requirements

7.15.3.2.1 PUSCH requirements

7.15.3.2.2 PRACH requirements

7.15.3.2.3 UL timing adjustment requirements

Priority topics are marked directly in the open issues’ summaries.

# Topic #1: PUSCH Requirements

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2014397 | CATT | Tdoc Title: Summary of ideal and impairment results for NR HST demodulation requirements |
| R4-2015183 | ZTE Corporation | Tdoc Title: Rel-16 NR HST BS demodulation requirements**Proposal 1: Capture performance requirements for multipath fading with high Doppler values in the relevant HST section in order to avoid confusion.** |
| R4-2014398 | CATT | Tdoc Title: Simulation results for NR HST PUSCH demodulation requirement |
| R4-2014555 | Intel Corporation | Tdoc Title: Simulation results for NR HST PUSCH |
| R4-2015090 | Nokia, Nokia Shanghai Bell | Tdoc Title: On NR Rel-16 HST BS demodulation PUSCH requirements and simulation resultsSimulation results misalignmentObservation 1: One company’s impairment result is better than the corresponding ideal one for 30kHz/10MHz, 2334Hz, 1T8R, MCS16. This causes a -102 error (span too large).**Proposal 1: In case the identified cases in the simulation summary excel are not updated in this meeting, remove them from the requirement calculation and move ahead with replacing TBDs in the CRs.**Multi-path carrier frequency**Proposal 2: If required for simulation alignment, RAN4 to consider fc=2.1GHz for TDLC300-600 FO=0Hz (15kHz), and fc=3.6GHz for TDLC300-1200 FO=0Hz (30kHz).**Applicability rules not implemented in specObservation 2: The implicit test passing and 1T1R applicability rules from RAN4#95e have yet to be included in TS 38.141-1 and TS 38.141-2.**Proposal 3: The companies responsible for PUSCH HST CRs to TS 38.141-1 and TS 38.141-2, are requested to include the implicit test passing and 1T1R applicability rules in this meeting.** |
| R4-2015118 | Samsung | Tdoc Title: Simulation results for NR HST PUSCH |
| R4-2015609 | Huawei, HiSilicon | Tdoc Title: Simulation results on the NR HST PUSCH performance requirements |
| R4-2015850 | Ericsson | Tdoc Title: simulation results for HST PUSCH under fading channel |

## Open issues summary and views’ collection for 1st round

*Before e-Meeting, moderators shall summarize list of open issues, candidate options and possible WF (if applicable) based on companies’ contributions.*

*Interested companies are expected to add their views directly under the respective issues in a dialogue-like form, i.e., identical to how the chair would record views during a f2f meeting.*

*Please add further table rows as required and do not change previous comments of your company or other companies. Answering to questions from other companies is encouraged.*

### Sub-topic 1-1 Simulation results (all channels)

*Sub-topic description:*

Many companies have provided updates simulation results for this meeting.
Please update the collection excel and check for misalignment

*Open issues and candidate options before e-meeting:*

**Issue 1-1-1: Collection of simulation updates**

* Proposals
	+ Option 1: Each company to update the simulation summary excel file prepared by CATT [R4-2014397] with revision available in the draft folder.
* Recommended WF
	+ Finish option 1 during 1st week.

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| **Company** | **Comments** |
| XXX |  |
| YYY |  |
| XXX |  |

**Issue 1-1-2: Resolve alignment issues**

* Proposals
	+ Option 1 (Nokia): In case the identified cases in the simulation summary excel are not updated in this meeting, remove them from the requirement calculation and move ahead with replacing TBDs in the CRs.
	+ Option 2 (Nokia): If required for simulation alignment, RAN4 to consider fc=2.1GHz for TDLC300-600 FO=0Hz (15kHz), and fc=3.6GHz for TDLC300-1200 FO=0Hz (30kHz).
* Recommended WF
	+ During 2nd week, check simulation results excel for alignment issues and resolve.

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| **Company** | **Comments** |
| XXX |  |

### Sub-topic 1-2 Specification drafting of multi-path fading requirements

*Sub-topic description*

One proposal on specification drafting of multi-path fading requirements has been submitted.
The proposal seems to re-tread previous agreements form the last (Friday) GtW session of RAN4#96e.

|  |
| --- |
| * Specification drafting of multi-path fading requirements
	+ - * Introduce multi-path fading channel requirements with high Doppler value in a separate table under section “8.2.4 Requirements for PUSCH for high speed train”
			* This requirement only applicable for wide-area, medium-range BS which supporting HST
 |

*Open issues and candidate options before e-meeting:*

**Issue 1-2-1: Specification drafting of multi-path fading requirements**

* Proposals
	+ Option 1 (ZTE): Capture performance requirements for multipath fading with high Doppler values in the relevant HST section in order to avoid confusion.
	+ Option 2 (RAN4#96e): Introduce multi-path fading channel requirements with high Doppler value in a separate table under section “8.2.4 Requirements for PUSCH for high speed train”.
* Recommended WF
	+ Do not reopen this discussion and continue with last meeting’s agreement.

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| **Company** | **Comments** |
| XXX |  |

### Sub-topic 1-3: Other

*Sub-topic description:*

*In this sub-topic companies are invited to bring issues to the attention of the group, which have not been captured in the previous sub-topics.*

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX |  |

### CRs/TPs comments collection

*Major close-to-finalize WIs and Rel-15 maintenance, comments collections can be arranged for TPs and CRs. For Rel-16 on-going WIs, suggest to focus on open issues discussion on 1st round.*

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| XXX | Title, Source |
| Company A |
| Company B |
|  |
| R4-2014822 | CR for TS 38.141-1: Updates of NR PUSCH performance requirements for Multi-path fading channel models under high Doppler values and applicability rules, NTT DOCOMO, INC. |
| Company A |
| Company B |
|  |
| R4-2015091 | CR for 38.104: HST PUSCH demodulation requirements, Nokia, Nokia Shanghai Bell |
| Company A |
| Company B |
|  |
| R4-2015846 | additional test cases for HST PUSCH in TS38.141-2, Ericsson |
| Company A |
| Company B |
|  |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary**  |
| **Sub-topic#1** | *Tentative agreements:**Candidate options:**Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title**  | **Assigned Company,****WF or LS lead** |
| #1 |  |  |
| #1 | WF on Rel-16 NR HST BS demodulation requirements |  |

### CRs/TPs

*Moderator tries to summarize discussion status for 1st round and provides recommendation on CRs/TPs Status update*

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation**  |
| XXX | *Based on 1st round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |
| R4-2014822 |  |
| R4-2015091 |  |
| R4-2015846 |  |

## Discussion on 2nd round (if applicable)

## Summary on 2nd round (if applicable)

*Moderator tries to summarize discussion status for 2nd round and provided recommendation on CRs/TPs/WFs/LSs Status update suggestion*

|  |  |
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| **CR/TP/LS/WF number** | **T-doc Status update recommendation**  |
| XXX | *Based on 2nd round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |

# Topic #2: PRACH Requirements

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2014399 | CATT | Tdoc Title: Simulation results for NR HST PRACH demodulation requirement |
| R4-2014554 | Intel Corporation | Tdoc Title: Simulation results for NR HST PRACH |
| R4-2015092 | Nokia, Nokia Shanghai Bell | Tdoc Title: On NR Rel-16 HST BS demodulation PRACH simulation resultsObservation 1: The simulation results collection template [3], erroneously captures the carrier frequency for set B as 2.1GHz (instead of 3.6GHz). This can be checked as a source of error in case of observed misalignment but is currently not expected to be a cause of concern. |
| R4-2015120 | Samsung | Tdoc Title: Simulation results for NR HST PRACH |
| R4-2015667 | Huawei, HiSilicon | Tdoc Title: Simulation results for NR HST PRACH format 0 with restricted set A and B under fading channel |
| R4-2015849 | Ericsson | Tdoc Title: simulation results for HST PRACH under fading channel |

## Open issues summary and views’ collection for 1st round

*Before e-Meeting, moderators shall summarize list of open issues, candidate options and possible WF (if applicable) based on companies’ contributions.*

*Interested companies are expected to add their views directly under the respective issues in a dialogue-like form, i.e., identical to how the chair would record views during a f2f meeting.*

*Please add further table rows as required and do not change previous comments of your company or other companies. Answering to questions from other companies is encouraged.*

### Sub-topic 2-1 PRACH restricted set specification

*Sub-topic description:*

The moderator has observed that for PRACH with restricted sets specification writing, the applicability rule has been already captured in 8.1.2.3 (PRACH applicability rule), and not in a new section for HST applicability rules (which is proposed in the CRs for PUSCH this meeting).

*Open issues and candidate options before e-meeting:*

**Issue 2-1-1: Capturing PRACH restricted set applicability rules in specifications**

* Proposals
	+ Option 1 (Moderator): Leave the applicability rules for PRACH tests with restricted set configurations in the section of PRACH applicability rules; the rule is only for restricted sets so there is an implicit distinction to only apply to HST scenarios.
	+ Option 2 (Moderator): Move the applicability rules for PRACH tests with restricted set configurations to a new section called “8.1.2.5 Applicability of PRACH for high speed train performance requirements”, to maintain a consistent specification structure.
* Recommended WF
	+ Please give your companies preference in the first round.

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| **Company** | **Comments** |
| XXX |  |
| YYY |  |
| XXX |  |

### Sub-topic 2-2 Simulation summary template

*Sub-topic description:*

It is possible that the simulation summary template erroneously captures the carrier frequency for set B as 2.1GHz (instead of 3.6GHz). Even though this is currently not expected to be a cause of concern, it is of interest correct the template, if it is found to be misquoting previous agreements.

*Open issues and candidate options before e-meeting:*

**Issue 2-2-1: Capturing PRACH restricted set applicability rules in specifications**

* Proposals
	+ Option 1 (Moderator): The carrier frequency for PRACH restricted set type B in the simulation summary template should read 2.1GHz.
	+ Option 2 (Moderator): The carrier frequency for PRACH restricted set type B in the simulation summary template should read 3.6GHz.
* Recommended WF
	+ Please give your companies understanding in the first round.

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| **Company** | **Comments** |
| XXX |  |

### Sub-topic 2-3: Other

*Sub-topic description:*

*In this sub-topic companies are invited to bring issues to the attention of the group, which have not been captured in the previous sub-topics.*

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX |  |

### CRs/TPs comments collection

*Major close-to-finalize WIs and Rel-15 maintenance, comments collections can be arranged for TPs and CRs. For Rel-16 on-going WIs, suggest to focus on open issues discussion on 1st round.*

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| XXX | Title, Source |
| Company A |
| Company B |
|  |
| R4-2015664 | CR for 38.104 Introduction of performance requirements for NR HST PRACH under fading channel, Huawei, HiSilicon |
| Company A |
| Company B |
|  |
| R4-2015665 -> R4-2016596 | CR for 38.141-1 Introduction of conformance testing for NR HST PRACH under fading channel, Huawei, HiSilicon |
| Company A |
| Company B |
|  |
| R4-2015666 -> R4-2016597 | CR for 38.141-2 Introduction of conformance testing for NR HST PRACH under fading channel, Huawei, HiSilicon |
| Company A |
| Company B |
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## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary**  |
| **Sub-topic#1** | *Tentative agreements:**Candidate options:**Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title**  | **Assigned Company,****WF or LS lead** |
| #1 |  |  |
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### CRs/TPs

*Moderator tries to summarize discussion status for 1st round and provides recommendation on CRs/TPs Status update*

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation**  |
| XXX | *Based on 1st round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |
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## Discussion on 2nd round (if applicable)

## Summary on 2nd round (if applicable)

*Moderator tries to summarize discussion status for 2nd round and provided recommendation on CRs/TPs/WFs/LSs Status update suggestion*

|  |  |
| --- | --- |
| **CR/TP/LS/WF number** | **T-doc Status update recommendation**  |
| XXX | *Based on 2nd round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |

# Topic #3: UL TA Requirements

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2015183 | ZTE Corporation | Tdoc Title: Rel-16 NR HST BS demodulation requirements**Proposal 2: Have requirements for 15kHz: 10MHz/5MHz; 30kHz: 40MHz/10MHz in order to cover the minimum channel bandwidth for all operating bands.****Proposal 3: Re-use non-HST PUSCH applicability for UL TA performance requirements for Scenario X.** |
| R4-2014400 | CATT | Tdoc Title: Simulation results for NR PUSCH UL timing adjustment demodulation requirement |
| R4-2014426 | CATT | Tdoc Title: Discussion on remaining issues of PUSCH UL TASCS/CBW combinations for scenario X**Proposal 1: To have requirements with 15kHz/5MHz, 15kHz/10MHz, 30kHz/10MHz and 30kHz/40MHz for UL TA scenario X (Option 1).**Applicability rules concerning SCS/CBW**Proposal 2: To reuse HST PUSCH applicability rules for UL TA scenario X (Option 1 or 2).** |
| R4-2014702 | CMCC | Tdoc Title: Discussion on remaining issues for NR HST BS demodulation**Proposal 1: for UL timing adjustment with scenario X, it is proposed to specify requirements for:  • 15kHz: 10MHz and 5MHz; • 30kHz: 40MHz and 10MHz.** |
| R4-2014823 | NTT DOCOMO, INC. | Tdoc Title: Views on NR PUSCH for UL timing adjustmentObservation 1: The requirements of PUSCH UL timing adjustment and PUSCH HST are considered with following SCS/CBW combinations: - 15kHz: 10MHz/5MHz; 30kHz: 40MHz/10MHz.**Proposal 1: Introduce requirements of 5/10MHz for 15kHz SCS and requirements of 10/40MHz for 30kHz SCS (Option 1).****Proposal 2: RAN4 reuses HST PUSCH applicability rules (Option 2).** |
| R4-2015093 | Nokia, Nokia Shanghai Bell | Tdoc Title: On NR Rel-16 HST BS demodulation UL timing adjustment requirements and simulation resultsSCS/CBW combinationsObservation 1: Introducing new mandatory tests with scenario X for all SCS/CBW combinations introduced in Rel-15 NR\_newRAT adds a non-negligible testing load. For scenarios Y and Z, we used the combinations 15/5, 15/10, 30/10, 30/40. Implicit passing for scenario X was also agreed.**Proposal 1: RAN4 to consider having scenario X requirements for 15kHz: 10MHz/5MHz; 30kHz: 40MHz/10MHz.**Applicability rules for SCS/CBW combinations and implicit test passing.**Proposal 2: RAN4 to apply the non-HST PUSCH applicability rules to SCS/CBW combinations, i.e., not to modify the current specification text in this regard.****Proposal 3: RAN4 to capture the implicit test passing agreement for scenario X, as follows:“Unless otherwise stated, a BS that declares to support PUSCH HST (see D.1XX in table 4.6-1) and passes the tests for scenario Y or scenario Z, can also consider the tests for scenario X as passed.”** |
| R4-2015119 | Samsung | Tdoc Title: Discussion and simulation results for NR HST UL timing adjustmenta) SCS/CBW combinations**Proposal 1: Only introduce the requirement of UL timing adjustment for scenario X with SCS/BW combination as 15 KHz/5MHz and 30 KHz/10MHz.**b) Applicability rules for SCS/BW**Proposal 2: Re-use non-HST PUSCH applicability rule for SCS/BW with requirement of UL timing adjustment scenario X**  |
| R4-2015610 | Huawei, HiSilicon | Tdoc Title: Discussion and simulation results on the UL timing adjustment2.1 SCS/CBW combinations for Scenario X**Proposal 1: For SCS/CBW combinations for Scenario X, define requirements only for 15kHz: 5MHz; 30kHz: 10MHz.** |
| R4-2015847 | Ericsson | Tdoc Title: discussion on HST UL TA remain issuesSCS/CBW combinations**Proposal 1: Modify parameter table for scenario X as follows:**

|  |  |
| --- | --- |
| **Parameter** | **Scenario X** |
| **Channel model** | Stationary UE: AWGNMoving UE: TDLC300-400 for 15kHz SCSTDLC300-800 for 30kHz SCS |
| **UE speed** | 120 km/h |
| **CP length** | Normal |
| **A** | 15 kHz: 10 us30 kHz: 5 us |
| **Δω** | 15 kHz: 0.04 s-130 kHz: 0.08 s-1 |

**Proposal 2: Agree with Option 2 to have requirements for 15kHz SCS 5MHz BW and 30kHz SCS 10MHz BW.**Applicability rules concerning SCS/CBW**Proposal 3: Re-use current applicability rules for scenario X requirements.** |
| R4-2015848 | Ericsson | Tdoc Title: additional simulation results for UL TA |
| R4-2016468 | Intel Corporation | Tdoc Title: Simulation results for NR HST UL TA |

## Open issues summary and views’ collection for 1st round

*Before e-Meeting, moderators shall summarize list of open issues, candidate options and possible WF (if applicable) based on companies’ contributions.*

*Interested companies are expected to add their views directly under the respective issues in a dialogue-like form, i.e., identical to how the chair would record views during a f2f meeting.*

*Please add further table rows as required and do not change previous comments of your company or other companies. Answering to questions from other companies is encouraged.*

### Sub-topic 3-1 Scenario X - SCS/CBW combinations

*Sub-topic description:*

In the last meeting the following issue was left open

|  |
| --- |
| UL TA - Additional scenario “X”* SCS/CBW combinations
	+ Option 1: Have requirements for
		- 15kHz: 10MHz/5MHz; 30kHz: 40MHz/10MHz.
	+ Option 2: Have requirements for
		- 15kHz: 5MHz; 30kHz: 10MHz.
	+ Option 3: Have requirements for all Rel-15 non-HST PUSCH bandwidths.
	+ Other options not precluded.
 |

*Open issues and candidate options before e-meeting:*

**Issue 3-1-1: Scenario X requirements w.r.t. SCS/CBW combinations**

* Proposals
	+ Option 1 (ZTE, CATT, CMCC, DoCoMo, Nokia): Have requirements for
		- 15kHz: 10MHz/5MHz; 30kHz: 40MHz/10MHz
	+ Option 2 (Samsung, Huawei, Ericsson): Have requirements for
		- 15kHz: 5MHz; 30kHz: 10MHz
* Recommended WF
	+ TBA

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| **Company** | **Comments** |
| XXX |  |
| YYY |  |
| XXX |  |

### Sub-topic 3-2 Scenario X - Parameters

*Sub-topic description:*

It was argued that the channel model Doppler spread for scenario X moving UE should be scaled with the SCS.

*Open issues and candidate options before e-meeting:*

**Issue 3-2-1: Scaling Doppler spread with SCS**

* Proposals
	+ Option 1 (Ericsson): Modify parameter table for scenario X as follows

|  |  |
| --- | --- |
| **Parameter** | **Scenario X** |
| **Channel model** | Stationary UE: AWGNMoving UE: TDLC300-400 for 15kHz SCSTDLC300-800 for 30kHz SCS |
| **UE speed** | 120 km/h |
| **CP length** | Normal |
| **A** | 15 kHz: 10 us30 kHz: 5 us |
| **Δω** | 15 kHz: 0.04 s-130 kHz: 0.08 s-1 |

* + Option 2: Other options not precluded
* Recommended WF
	+ Companies to contribute their analysis of this proposed change in the first round.

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| **Company** | **Comments** |
| XXX |  |

### Sub-topic 3-3 Scenario X - Applicability rules

*Sub-topic description*

Several issues concerning applicability rule details remained open in the last meeting:

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| --- |
| UL TA - Additional scenario “X”* SCS/CBW combinations
	+ Option 1: Have requirements for
		- 15kHz: 10MHz/5MHz; 30kHz: 40MHz/10MHz.
	+ Option 2: Have requirements for
		- 15kHz: 5MHz; 30kHz: 10MHz.
	+ Option 3: Have requirements for all Rel-15 non-HST PUSCH bandwidths.
	+ Other options not precluded.
* Addition of scenario “X”
	+ RAN4 agree to introduce scenario X requirements under rel-16 HST WI, adding it in non-HST sections/tables to avoid misleading.
		- A BS, which declares to support HST and passes scenario Y or scenario Z, can assume implicit test passing of scenario X.
 |

*Open issues and candidate options before e-meeting:*

**Issue 3-3-1: Applicability rules for SCS/CBW combinations**

* Proposals
	+ Option 1 (ZTE, CATT, Nokia, Samsung): Re-use non-HST PUSCH applicability rules.
	+ Option 2 (CATT, DCM): Re-use HST PUSCH applicability rules
	+ Option 3 (Ericsson): Re-use current applicability rules for scenario X requirements.
* Recommended WF
	+ Option 1 seems like a potential compromise.
	Please supply further input during first round, especially if the recommended WF does not seem acceptable.

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| **Company** | **Comments** |
| XXX |  |

**Issue 3-3-2: Applicability rule text for implicit test passing**

* Proposals
	+ Option 1 (Nokia): “Unless otherwise stated, a BS that declares to support PUSCH HST (see D.1XX in table 4.6-1) and passes the tests for scenario Y or scenario Z, can also consider the tests for scenario X as passed.”
	+ Option 2: Other options not precluded.
* Recommended WF
	+ TBD

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| --- | --- |
| **Company** | **Comments** |
| XXX |  |

### Sub-topic 3-4: Other

*Sub-topic description:*

*In this sub-topic companies are invited to bring issues to the attention of the group, which have not been captured in the previous sub-topics.*

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX |  |

### CRs/TPs comments collection

*Major close-to-finalize WIs and Rel-15 maintenance, comments collections can be arranged for TPs and CRs. For Rel-16 on-going WIs, suggest to focus on open issues discussion on 1st round.*

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| XXX | Title, Source |
| Company A |
| Company B |
|  |
| R4-2014427 | CR for TS 38.141-2, Introduction of NR PUSCH UL TA performance requirement, CATT |
| Company A |
| Company B |
|  |
| R4-2015121 | CR on UL timing adjustment conducted performance requirement for TS 38.141-1, Samsung |
| Company A |
| Company B |
|  |
| R4-xxxxxx | [Moderator: CR for 38.104 might allocated during meeting, to capture scenario Z and outcome of SCS/BW discussion] |
| Company A |
| Company B |
|  |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary**  |
| **Sub-topic#1** | *Tentative agreements:**Candidate options:**Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title**  | **Assigned Company,****WF or LS lead** |
| #1 |  |  |
|  |  |  |

### CRs/TPs

*Moderator tries to summarize discussion status for 1st round and provides recommendation on CRs/TPs Status update*

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation**  |
| XXX | *Based on 1st round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |
|  |  |
|  |  |
|  |  |

## Discussion on 2nd round (if applicable)

## Summary on 2nd round (if applicable)

*Moderator tries to summarize discussion status for 2nd round and provided recommendation on CRs/TPs/WFs/LSs Status update suggestion*

|  |  |
| --- | --- |
| **CR/TP/LS/WF number** | **T-doc Status update recommendation**  |
| XXX | *Based on 2nd round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |