**3GPP TSG-RAN WG4 Meeting #94-e R4-20xxxxx**

**Electronic Meeting, Feb.24th – Mar.6th 2020**

**Agenda item:** 6.8.3, 6.8.4,6.8.5

**Source:** Moderator (ZTE Corporation)

**Title:** Email discussion for RAN4#94e\_#77\_NR\_NewRAT\_Conformance\_BS\_Part\_2

**Document for:** Information

# Introduction

Scope of this email discussion is listed in Table 1.

In this meeting following open issues will be discussed

**Topic 1:** **TC updates for TS38.141-1/38.141-2**

**Topic 2: PHY Data generation for test model and**

**Topic 3: OSTP calculation**

**Topic 4:** **OBUE** **Cat B option 2 for n7 and n38 and removal of n65 in R15**

**Topic 5: Correlation between wanted signal and in-band emission**

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

* 1st round: Topics listed above with numbers
* 2nd round: TBA

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| --- | --- | --- | --- | --- |
| **#** | **Email title** | **WI** | **Topic areas** | **AI** |
| 77 | RAN4#94e\_#77\_NR\_NewRAT\_Conformance\_BS\_Part\_2 | NR\_newRAT-Perf | * TC updates for TS38.141-1/38.141-2
* PHY Data generatioin for test model
* OSTP calculation
* OBUE Cat B option 2 for n7 and n38 and removal of n65 in R15
* Correlation between wanted signal and in-band emission
 | 6.8.3, 6.8.4, 6.8.5 |

# Topic #1: TC updates for TS38.141-1 and TS38.141-2

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| **[R4-2000666](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000666.zip)** | Nokia, Nokia Shanghai Bell | Title:CR to TR 38.141-1: Corrections on generation of test configurationsProposal 1:1) For NRTC1 power allocation, set the power spectral density of each carrier to the same level only be used for testing BS supporting CA only operation (D.15), and set the power of each carrier to the same level for testing BS supporting multiple carriers (D.16), as in E-UTRA ETC1.2) For NRTC4 generation, use Maximum number of supported carriers in multi-band operation (D.18) for carrier placement in each supported operating band (2nd bullet).3) For NRTC4 generation, use Total maximum number of supported carriers (D.19) to compare to the calculated sum of the maximum number of supported carriers of each supported operating band (last bullet). |
| R4-2000667 | Nokia, Nokia Shanghai Bell | Title:CR to TR 38.141-1: Corrections on generation of test configurations |
| **[R4-2000668](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000668.zip)** | Nokia, Nokia Shanghai Bell | Title :CR to TR 38.141-2: Corrections on generation of test configurationsProposal :) For power allocation for all test configurations except NRTC2, set the power of each carrier to the same level, and use rated transmitter TRP,Prated,t,TRP (D.38) instead of rated carrier TRP,PRated,c,TRP (D.37) for the total radiated power.2) For NRTC1 generation, points to (D.60) instead of (D.59) for inter-band CA bands declared to be supported by the beam.3) For NRTC2 power allocation, remove the condition of CA-only operation (D.20).4) For NRTC4, change the term ‘active electronic components(s)’ to ‘active RF components’ to match the definition of ‘multi-band RIB’.5) For NRTC5 power allocation, change the ‘EIPR’ to ‘TRP’, and clarify the declared rated TRP as the rated carrier OTA BS power, PRated,c,TRP (D.37). |
| R4-2000669 | Nokia, Nokia Shanghai Bell | CR to TR 38.141-2: Corrections on generation of test configurations |
| R4-2000679 | Nokia, Nokia Shanghai Bell | CR to TR 38.141-1: Corrections on generation of test configurations |
| R4-2000680 | Nokia, Nokia Shanghai Bell | CR to TR 38.141-1: Corrections on generation of test configurations |
| R4-2000681 | Nokia, Nokia Shanghai Bell | CR to TR 38.141-2: Corrections on generation of test configurations |
| R4-2000682 | Nokia, Nokia Shanghai Bell | CR to TR 38.141-2: Corrections on generation of test configurations |

## Open issues summary

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

### Sub-topic 1-1: TC updates for TS38.141-1

*Sub-topic description:*

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

**Issue 1-1: TC updates for TS38.141-1**

* Proposals

1) For NRTC1 power allocation, set the power spectral density of each carrier to the same level only be used for testing BS supporting CA only operation (D.15), and set the power of each carrier to the same level for testing BS supporting multiple carriers (D.16), as in E-UTRA ETC1.

2) For NRTC4 generation, use Maximum number of supported carriers in multi-band operation (D.18) for carrier placement in each supported operating band (2nd bullet).

3) For NRTC4 generation, use Total maximum number of supported carriers (D.19) to compare to the calculated sum of the maximum number of supported carriers of each supported operating band (last bullet).

### Sub-topic 1-2: TC updates for TS38.141-2

*Sub-topic description*

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

**Issue 1-2:**

* Proposals
1. For power allocation for all test configurations except NRTC2, set the power of each carrier to the same level, and use rated transmitter TRP,Prated,t,TRP (D.38) instead of rated carrier TRP,PRated,c,TRP (D.37) for the total radiated power.

2) For NRTC1 generation, points to (D.60) instead of (D.59) for inter-band CA bands declared to be supported by the beam.

3) For NRTC2 power allocation, remove the condition of CA-only operation (D.20).

4) For NRTC4, change the term ‘active electronic components(s)’ to ‘active RF components’ to match the definition of ‘multi-band RIB’.

5) For NRTC5 power allocation, change the ‘EIPR’ to ‘TRP’, and clarify the declared rated TRP as the rated carrier OTA BS power, PRated,c,TRP (D.37).

## Companies views’ collection for 1st round

### Open issues

|  |  |
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| **Company** | **Comments** |
| ZTE | Sub topic 1-1: The number of carriers of each supported *operating band* shall be the declared maximum number of supported carriers in multi-band operation (D.18)I think it should be D.17 for each operating band I think instead of multiple band , otherwise the maximum supported carrier per band is the same as maximum supported carrier in multi-band. If the sum of the maximum number of supported carriers in multi-band operation (D.18) is larger than the declared total maximum number of supported carriers of the BS (D.19), repeat the steps above for test configurations where in each test configuration the number of carriers of one of the operating band shall be reduced so that the total number of supported carriers is not exceeded and vice versa.I think the original one is also correct, why we need to remove band combination or each supported band for multi-band operation.Sub topic 1-2: it’s fine for all updates.  |

### 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.*

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| --- | --- |
| **CR/TP number** | **Comments collection** |
| **[R4-2000666](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000666.zip)** | Company A: |
| Company B: |
|  |
| **[R4-2000668](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000668.zip)** | 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.*

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

*Recommendations on WF/LS assignment*

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| --- | --- | --- |
|  | **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*

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| **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*

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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: PHY data generation for test model

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2001171 | CATT | Discussion on random data content of physical channels for NR test models |
| **[R4-2001676](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001676.zip)** | Nokia, Nokia Shanghai Bell | Discussion on data content for NR test modelsObservation 1: Generation for NR test models should match physical layer design in RAN1 specifications.Observation 2: Using “random” data instead of “all 0” may be beneficial for some of the test models, but it also increases test time and complexity for implementing PN. |
| **[R4-2001722](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001722.zip)** | Ericsson | Random data content of physical channels for NR test modesProposal 1: random data has been proposed as a means to bring the NR TM for a more realistic waveform but also to provide amplitude statistics of the NR TM to be Rayleigh distributed. Proposal: PN 23 for random data generation  |
| **[R4-2001723](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001723.zip)** | Ericsson | CR to TS 38.141-1: Random data content for NR BS Test Models |
| R4-2001724 | Ericsson | CR to TS 38.141-1: Random data content for NR BS Test Models |
| **[R4-2001725](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001725.zip)** | Ericsson | CR to TS 38.141-2: Random data content for NR BS Test Models |
| R4-2001726 | Ericsson | CR to TS 38.141-2: Random data content for NR BS Test Models |
| **[R4-2001730](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001730.zip)** | Futurewei | Scrambling and initialization for test modelsObservation 1: it is possible to generate independent realizations over a measurement interval if an LFSR has length of at least 23 bits.Observation 2: Cascading current scramblers initialized with different seeds may not improve the randomness of bits.Observation 3: How the PN generator operates should be clarified (e.g., continuous, reinitialized with different seeds).Proposal 1: If more realizations are needed, consider augmenting the RNTI with the slot number in the calculation of the initialization of the scrambling seed for PDSCH. |
| **[R4-2001805](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001805.zip)** | Keysight Technologies UK Ltd | Study on NR Test Model signal characteristic by data content choiceProposal1. Use CCDF curve as tool to evaluate data content of Test model. Proposal2. Use random data rather All zero for test model data content.Proposal3. Between PN23 and PN31, either PN sequence is good enough. And no further randomization study is not necessary.Proposal4. No further study necessary for multiple CC case and cell ID.Proposal5. Further study may be needed on TM2 if RAN4 sees concern on CCDF plot of TM2 |

## Open issues summary

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

### Sub-topic 2-1: PHY data generation for test model

**Issue 2-1: data generationt to solve the correlation between symbols**

* Proposals
	+ Option 1: random data with PN23
	+ Option 2: augmenting the RNTI with the slot number in the calculation of the initialization of the scrambling seed for PDSCH
* Recommended WF
	+ TBA

## Companies views’ collection for 1st round

### Open issues

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| **Company** | **Comments** |
| ZTE | Sub topic 2-1: support option 1 with random data with PN23 as option 2 is not aligned with PHYspec. |
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### 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.*

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| --- | --- |
| **CR/TP number** | **Comments collection** |
| **[R4-2001723](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001723.zip)** | ZTE: is that necessary to use the uniform distribution to describe PN23?  |
| Company B |
|  |
| **[R4-2001725](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001725.zip)** | ZTE: the same comment as before. |
| 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.*

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

*Suggestion on WF/LS assignment*

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

### CRs/TPs

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

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| **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”* |

# Topic #3: OSTP calculation

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| **[R4-2001677](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001677.zip)** | Nokia, Nokia Shanghai Bell | CR to 38.141-1 updates for OSTP calculationsProposal: For OSTP formula *Nsym* as all OFDM symbols that carry PDSCH and not contain PDCCH, RS or SSB is included to formula:$OSTP=\sum\_{}^{}RETP$ */ Nsym* |
| R4-2001678 | Nokia, Nokia Shanghai Bell | CR to 38.141-1 updates for OSTP calculations |
| **[R4-2001679](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001679.zip)** | Nokia, Nokia Shanghai Bell | CR to 38.141-2 updates for OSTP calculationsProposal :For OSTP formula *Nsym* as all OFDM symbols that carry PDSCH and not contain PDCCH, RS or SSB is included to formula:$OSTP=\sum\_{}^{}RETP$ */ Nsym* |
| R4-2001680 | Nokia, Nokia Shanghai Bell | CR to 38.141-2 updates for OSTP calculations |

## Open issues summary

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

### Sub-topic 3-1: OSTP calculation

**Issue 2-1: OSTP calculation**

* Proposals

For OSTP formula *Nsym* as all OFDM symbols that carry PDSCH and not contain PDCCH, RS or SSB is included to formula

$OSTP=\sum\_{}^{}RETP$ */ Nsym*

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| ZTE | Sub topic 3-1: fine to have the updates. |

### 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.*

|  |  |
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| **CR/TP number** | **Comments collection** |
| **[R4-2001677](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001677.zip)** | Company A |
| Company B |
|  |
| **[R4-2001679](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001679.zip)** | 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.*

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

*Suggestion on WF/LS assignment*

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

### CRs/TPs

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

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| --- | --- |
| **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*

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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 #4: OBUE Cat B option 2 for n7 and n38 and removal of n65 in R15

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2001824 | Huawei | Title:CR to TS 38.141-1: OBUE Cat. B Option 2 correction for n7, Rel-15Proposal 1: addding n7 and n38 for OBUE Cat B option 2 for AAS BS according to ECC decision;Proposal 2: Removal of n65 in R15 spec and capture n65 in R16 spec |
| R4-2001825 | Huawei | Title:CR to TS 38.141-1: OBUE Cat. B Option 2 correction for n7, Rel-16 |
| R4-2001826 | Huawei | Title: CR to TS 38.141-2: OBUE Cat. B Option 2 correction for n7 and n38, Rel-15, Cat FProposal 1: addding n7 and n38 for OBUE Cat B option 2 for AAS BS according to ECC decision;Proposal 2: Removal of n65 in R15 spec and capture n65 in R16 spec |
| R4-2001827 | Huawei | Title: CR to TS 38.141-2: OBUE Cat. B Option 2 correction for n7 and n38, Rel-16, Cat A |

## Open issues summary

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

### Sub-topic 4-1 OBUE Cat B option 2 for n7 and n38 and removal of n65 in R15

**Issue 2-1: TBA**

* Proposals
	+ addding n7 and n38 for OBUE Cat B option 2 for AAS BS according to ECC decision
	+ Removal of n65 in R15 spec and capture n65 in R16 spec

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| ZTE | Sub topic 4-1: it’s fine to remove that n65 and add n7 and n38 into R15 spec. |

### 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** |
| R4-2001824 | ZTE: okay |
| Company B |
|  |
| R4-2001826 | ZTE: okay |
| 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.*

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

*Suggestion on WF/LS assignment*

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

### CRs/TPs

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

|  |  |
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| **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”* |

# Topic #5: Correlation between wanted signal and in-band emission

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2002042 | Nokia, Nokia Shanghai Bell | *Observation 1*: $x\_{n}$ and $y\_{n}$ in Equation (3) are independent Gaussian random values, while $x\_{n}$, $y\_{n}$ and $z\_{n}$ in Equation (2) provides the position of each array element in the Cartesian coordinate system. To avoid confusion, a different symbol could be used to represent the Gaussian random value.  *Question 1*: Is the correlation model assumed by Equation (3) realistic or only valid for some AAS BS implementation variants? *Observation 2*: $w\_{n}$ has only a real part which is constant.*Observation 3*: When $ρ=1$, the radiation pattern of the unwanted signal is identical to the wanted signal. As a result, the beam-based directions procedure can be applied without causing TRP estimation errors. *Observation 4*: $w\_{n}$ is a random complex number.*Observation 5*: For $ρ$ = 0, it can be concluded that criteria (a)-(c) are not met based on the above analysis, which implies criterion (d) is also not met.*Observation 6*: $w\_{n}$ is a random complex number but the real part is composed of a constant $\left(^{3}/\_{\sqrt{10}}\right)$ and a random number.*Observation 7*: For $ρ$ = 0.9, it can be concluded that criteria (b)-(c) are not met based on the above analysis, which implies criterion (d) is also not met. Consequently, the beam-based directions procedure cannot be used for computing TRP estimate. *Observation 8*: $w\_{n}$ is a random complex number but the real part is composed of constant $^{2}/\_{\sqrt{10}}$ and a random number similar to the case $ρ$ = 0.9. However, the constant is smaller as $ρ$ decreases. *Observation 9*: For $ρ$ = 0.4, it can be concluded that criteria (b)-(c) are not met based on the above analysis, which implies criterion (d) is also not met. Consequently, the beam-based directions procedure cannot be used for computing TRP estimate. |

## Open issues summary

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

### Sub-topic 5-1

*Sub-topic description:*

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

**Issue 2-1: correlation between wanted signal and in-band emission**

* Observation: general relationship between the HPBW and signal correlation exist

## Companies views’ collection for 1st round

### Open issues

|  |  |
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| **Company** | **Comments** |
| ZTE | Sub topic 5-1: no strong opinions. |

### 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 | Company A |
| Company B |
|  |
| YYY | 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:* |

*Suggestion on WF/LS assignment*

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

### CRs/TPs

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

|  |  |
| --- | --- |
| **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”* |