**3GPP TSG-RAN WG4 Meeting # 98-e R4-200xxxx**

**Electronic Meeting, Jan. 25th – Feb. 5th, 2021**

**Agenda item:** 9.35

**Source:** Moderator (Nokia)

**Title:** Email discussion summary for [98e][133] NR\_6GHz\_unlic\_EU

**Document for:** Information

# Introduction

In RAN#90 WID on introduction of lower 6GHz NR unlicensed operation for Europe [RP-202592]. Objectives of the WI are:

The objectives of the core part work item are:

* Depending on the details of the European regulatory requirements, determine whether they are best handled by relevant updates (if any) of band n96 or whether a new band is needed.
  + If a new band is needed, determine the band plan for unlicensed operation in the range 5945-6425 MHz
* Define or update (if needed) system parameters such as channel bandwidths and channel arrangements
* Define or update (if needed) transmitter and receiver characteristics requirements for the UE
* Define or update (if needed) transmitter and receiver characteristics requirements for the BS

The objective of the performance part work item is:

* Define or update (if needed) conformance requirements for BS testing.

According to proposed work plan the target for this meeting is:

* 3GPP RAN4#98-e (Jan. 2021)
  + Agree or endorse on the work plan, TR 38.849 skeleton and revised WID if any updates;
  + Agree if the frequency range for unlicensed operation in Europe are best introduced to the specification by relevant updates (if any) of band n96 or whether a new band is needed.
  + Agree WF or TP to TR 38.849 detailing the remaining work needed to complete the objectives of the WID
  + Agree work split, if needed, for the WI

# Topic #1: Work plan, TR and WID

This topic is aiming to agree the TR 38.849 v0.0.0 skeleton and if needed TPs to be included in TR 38.849 v0.1.0 which have been reserved for this. Further, it is proposed to approve a work plan for the WI.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2101927 | Nokia | Skeleton TR 38.849 v0.0.0 for Agreement |
| R4-2101928 | Nokia | draft TR 38.849 v0.1.0 for Agreement |
| R4-2101929 | Nokia | Work plan for Introduction of lower 6GHz NR unlicensed operation for Europe for Approval |
| R4-2101965 | ZTE Corporation | **Proposal 4:** to discuss the 100MHz and intra-band contiguous UL CA in the corresponding WID instead of this 6GHz NR unlicensed operation for Europe WID. |

## Open issues summary

As this is the first RAN4 meeting on this WI both work plan and the allocated internal TR skeleton has to be discussed. Further, it is needed to discuss if the WID needs to be modified.

### Sub-topic 1-1

TR skeleton have been proposed by the rapporteur and how to proceed with this TR must be agreed

**Issue 1-1: Agreement of TR skeleton**

* Proposals
  + **Option 1:** Agree the TR skeleton as in R4-2101927 and provide TPs for additions in coming meetings. TR 38.849 v0.1.0 (R4-2101928) will be updated with agreed TPs, if any, at this meeting.
  + **Option 2:**  Modify the proposed TR skeleton by providing TPs at this meeting and based on consensus agree the modified version as TR 38.849 v0.1.0 (R4-2101928).
* Recommended WF
  + Agree option 1

### Sub-topic 1-2

A work plan have been proposed by the rapporteur and how to proceed with this WI must be agreed

**Issue 1-2: Agreement on work plan**

* Proposals
  + **Option 1:** Agree the work plan as in R4-2101929
  + **Option 2:** Further discuss and if needed modify the workplan
* Recommended WF
  + Agree option 1

### Sub-topic 1-3

To form and overview of which sections of the specifications identified in the WID will be impacted by the introduction of lower 6GHz NR unlicensed operation for Europe. Companies are invited to provide their inputs in the table below.

**Issue 1-3: Impacted Specifications**

|  |  |  |
| --- | --- | --- |
| **TS** | **Section** | **Notes** |
| 38.101-1 | xx.xx, xx.xx, xx.xx… |  |
| 38.133 |  |  |
| 38.104 |  |  |
| 38.141-1 |  |  |
| 38.141-2 |  |  |
| 36.104 |  |  |
| 36.141 |  |  |
| 37.104 |  |  |
| 37.141 |  |  |
| 37.105 |  |  |
| 37.145-1 |  |  |
| 37.145-2 |  |  |

* Proposals
  + **Option 1:** Include the table of impacted TS in the TR
  + **Option 2:** Do not include the table of impacted TS in the TR
* Recommended WF
  + Agree one of the listed options

### Sub-topic 1-4

In the contribution R4-2101965 it is proposed that the discussion of introduction of 100MHz channels for NR-U and intra-band contiguous UL CA is conducted in the corresponding WID instead of this 6GHz NR unlicensed operation for Europe WID.

**Issue 1-4: Discussion on 100 MHz CBW and UL CA**

* Proposals
  + **Option 1:** Leave discussion on 100MHz channels for NR-U and intra-band contiguous UL CA for other agendas (WIDs were it is/might be included) as proposed in R4-2101965
  + **Option 2:** Further discuss and if needed modify the WID on introduction of lower 6GHz NR unlicensed operation for Europe [RP-202592] to include these topics
  + **Option 3:** This is a RAN discussion and no further discussion is needed this RAN4 meeting.
* Recommended WF
  + Agree one of the listed options

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Charter Communications Inc. | Sub Topic 1-4 : Discussion on 100 MHz CBW and UL CA  A question for clarification, in the last Plenary meeting, RAN#90-e, there was a WF, RP-202752 WF on handling of NR-U leftovers that was noted but the conclusion endorsed which concluded the following:   * *For the introduction of 100 MHz channel BW*   + *The NR\_bands\_R17\_BWs WID should be modified to add this new objective*   + *Papers and discussion related to 100 MHz NR-U shall not be treated by block approval within this work item*   Would this conclusion be in agreement with Option 1 (“Leave discussion on 100MHz channels for NR-U and intra-band contiguous UL CA for other agendas”) in Issue 1-4? If so, we agree with option 1 |

## 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*

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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: Band plan

The contributions and proposals/observations related to the band plan for the introduction of lower 6GHz NR unlicensed operation for Europe is discussed under this topic and the contributions and relevant proposals/observations have been included in the Table 2.1.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2100514 | Apple Inc. | **Proposal 1:** Leverage existing band n96 to support license-exempt usage of the 6GHz band in CEPT countries.  **Proposal 2b:** Discuss further whether 3GPP specifications have to support CEPT VLP. |
| R4-2100546 | Skyworks Solutions Inc. | **Proposal 1:**   * LPI device use case is prioritized * VLP Narrow band use case is out of scope * Further clarification of wideband VLP use cases may be needed, at this point we suggest it is considered   **Proposal 2 on band definition:**   * Band n96 is reused for UE operation in European unlicensed band * Operation is restricted to the 5945-6425MHz range and corresponding 20, 40, 60 and 80 MHz channels * FSS whether a specific sub-band is introduced for the BS * Band n96 receiver requirements are used as is * Band n96 MPR, ACLR and spectrum mask definitions are used as is |
| R4-2101965 | ZTE Corporation | **Proposal 1:** to define 5925-6425MHz for Europe unlicensed operation as n99.  **Proposal 2:** Applicable NR-ARFCN for band n99:  for 20 MHz channel bandwidth, NREF = {797000, 798332, 799668, 801000, 802332, 803668, 805000, 806332, 807668, 809000, 810332, 811668, 813000, 814332, 815668, 817000, 818332, 819668, 821000, 822332, 823668, 825000, 826332, 827668}  for 40 MHz channel bandwidth, NREF = {797668, 800332, 803000, 805668, 808332, 811000, 813668, 816332, 819000, 821668, 824332, 827000}  for 60 MHz channel bandwidth, NREF = {798332, 799668, 803668, 805000, 809000, 810332, 814332, 815668, 819668, 821000, 825000, 826332}  for 80 MHz channel bandwidth, NREF = {799000, 804332, 809668, 815000, 820332, 825668,}  **Proposal 3:** Applicable GSCN for band n99  GSCN = {9548, 9562, 9576, 9590, 9603, 9617, 9631, 9645, 9659, 9673, 9687, 9701, 9714, 9728, 9742, 9756, 9770, 9784, 9798, 9812, 9826, 9840, 9853, 9867} |
| R4-2101930 | Nokia | **Observation 1:** The same efforts for channel arrangement alignment to other technologies intended deployed in the frequency range as used for the design of n96 should be applied.  **Observation 2:** There is no need to modify or add additional channel bandwidths, channel or synchronization raster points as already defined for band n96.  **Proposal 1:** Introduce the 5945 MHz to 6425 MHz frequency range for unlicensed operation in Europe using already defined band n96 with relevant modifications. |

## Open issues summary

It is needed to come to an agreement if a new band should be defined or existing n96 can be updated. Further, two types of deployments are defined by ECC as described in detail in TR 37.890. It is needed to discuss if both types of deployments can be supported.

### Sub-topic 2-1

Discussion on if a new band should be defined or existing n96 can be updated.

**Issue 2-1a: Band Plan**

* Proposals
  + **Option 1a:** Introduce unlicensed operation in the range 5945-6425 MHz by re-using band n96 (with additional notes or clarifications if needed).
  + **Option 2a:** Introduce unlicensed operation in the range 5945-6425 MHz by a new band n[xx]
* Recommended WF
  + Agree one of the listed options

**Issue 2-1b: ARFCN and GSCN**

* Proposals
  + **Option 1b:** There is no need to modify or change NR-ARFCN and GSCN
  + **Option 2b:** NR-ARFCN and GSCN should be discussed further.
* Recommended WF
  + Agree one of the listed options

### Sub-topic 2-2

Discussion on if both LPI and VLP as define din TR 37-890 should be supported by 3GPP specification.

**Issue 2-2: Band Plan**

* Proposals
  + **Option 1:** Introduce only LPI in 3GPP specification.
  + **Option 2:** Prioritize LPI in 3GPP specification, VLP can be added at a later stage if found needed.
  + **Option 3:** Introduce both LPI and VLP in 3GPP specification.
* Recommended WF
  + Agree one of the listed options

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Charter Communications Inc | Issue 2-1a: Option 1a is agreeable with us as long as it does not change the current specs approved for n96 (US band)  Issue 2-1b: We agree with option 1b as it reflects the approval reached for n96 (US band)  Issue 2-2: As long as the NS values for n96 (US band) are not change then perhaps Skyworks proposal in R4-2100546 defining new NS values (55?, 56?) might be a good way forward  Others: |

## 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** |
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### 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: UE related

Discussions related to how the introduction of unlicensed operation in the range 5945-6425 MHz for the UE specification shall be treated.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2100514 | Apple Inc. | **Proposal 2a:** Introduce new NS flag(s) to support CEPT regulatory requirements on the 3GPP band n96 (6GHz band). |
| R4-2100546 | Skyworks Solutions Inc. | **Proposal 2 on band definition:**   * Band n96 is reused for UE operation in European unlicensed band * Operation is restricted to the 5945-6425MHz range and corresponding 20, 40, 60 and 80 MHz channels * FSS whether a specific sub-band is introduced for the BS * Band n96 receiver requirements are used as is * Band n96 MPR, ACLR and spectrum mask definitions are used as is   **Proposal 3 for A-MPR:**   * Two new Band n96 NS are introduced to cover VLP and LPI UE devices * Band n96 PC5 definition is used to assess VLP and LPI device A-MPR * A mechanism is needed to limit MOP to 14dBm for VLP devices * FFS if PC3 using two PC5 power amplifiers for LPI device is introduced |
| R4-2101930 | Nokia | **Observation 1:** The same efforts for channel arrangement alignment to other technologies intended deployed in the frequency range as used for the design of n96 should be applied.  **Observation 2:** There is no need to modify or add additional channel bandwidths, channel or synchronization raster points as already defined for band n96.  **Observation 3:** The European utilization of band n96 could be restricted done by modifying the notes in 38.101-1 Table 5.4.2.3-3 and Table 5.4.3.3-1 and/or as a frequency restriction in the NS defined for European deployment.  **Observation 4:** NS\_[xx] and NS\_[yy] corresponding to deployments defined in EN 303 687 shall be defined in 38.101-1.  **Observation 5:** A-MPR values needs to be studied and verified for NS\_[xx] and NS\_[yy].  **Observation 6:** Spurious emission requirements shall be added for NS\_[xx] and NS\_[yy] in accordance with EN 303 687.  **Observation 7:** There is no need to modify or add additional receiver requirements besides the ones already defined for band n96.  **Observation 8:** If band n96 is to be reused with additional NS defined Note 14 in Table 5.2-1 of TS 38.101-1 shall be modified.  **Proposal 1:** Introduce the 5945 MHz to 6425 MHz frequency range for unlicensed operation in Europe using already defined band n96 with relevant modifications. |
| R4-2102416 | Qualcomm Incorporated | **Proposal 1:** It is proposed to define two NS values for the new band: NS\_XX for LPI and NS\_YY for VLP.  **Proposal 2:** 0 dBi antenna gain is assumed for the purpose of deriving 3GPP specifications on MOP, PSD, and ASE.  **Proposal 3:** Adopt option 1 whereby only the known requirement of -45 dBm/MHz additional spurious emission for VLP is adopted today. If the requirement is modified in the future, specification changes can be evaluated at that time after there is certainty in the requirement.  **Proposal 4:** Filter rejection is not assumed in deriving A-MPR to meet the spurious emission requirement at 5935 MHz.  **Proposal 5:** The same PA model and calibration setpoint from Band n96 studies is used in the evaluation of A-MPR for this band for PC5. PA model for other power classes to be further discussed. |

## Open issues summary

### Sub-topic 3-1

Discussion on how to define the assumption for antenna gain when choosing applicable power classes for VLP and/or LPI deployments.

**Issue 3-1: Antenna gain assumption**

* Proposals
  + **Option 1**: VLP is either not considered or added at a later stage. For LPI 0 dBi antenna gain is assumed for the purpose of deriving 3GPP specifications on MOP, PSD, and ASE.
  + **Option 2:** VLP is added by defining a new power class corresponding to the allowed 14dBm. For both VLP and LPI 0 dBi antenna gain is assumed for the purpose of deriving 3GPP specifications on MOP, PSD, and ASE.
  + **Option 3:** Another antenna gain is to be assumed when deriving 3GPP specifications on MOP, PSD, and ASE and should be discussed further.
* Recommended WF
  + Agree one of the listed options

### Sub-topic 3-2

Discussion on how to define NS\_[xx] and/or NS\_[yy].

**Issue 3-2: NS definition**

* Proposals
  + **Option 1:** Define NS\_[xx] and NS\_[yy] using the TP provided in R4-2100546
  + **Option 2:** Further discuss how to define NS\_[xx] and/or NS\_[yy] on the bases of TP provided in R4-2100546 in this RAN4 meeting.
  + **Option 3**: Further discuss how to define NS\_[xx] and/or NS\_[yy] on the bases of TPs provided for next RAN4 meeting.
* Recommended WF
  + Agree one of the listed options

### Sub-topic 3-3

Discussion on how to asses and define A-MPR for unlicensed operation in the range 5945-6425 MHz.

**Issue 3-3: A-MPR**

* Proposals
  + **Option 1:** A-MPR for PC5 is assessed using band n96 PC5 definitions for VLP and LPI device A-MPR. Further, no filter rejection is assumed at 5935 MHz for spurious emissions and same PA model and calibration setpoint from Band n96 is to be used. A-MPR for other power classes are to be added at a later stage. A-MPR studies for PC5 are to be compared and decided at next RAN4 meeting.
  + **Option 2:** Discuss how to define A-MPR for unlicensed operation in the range 5945-6425 MHz further.
* Recommended WF
  + Agree one of the listed options

### Sub-topic 3-4

The modified additional spurious emission for VLP might be changed by ECC after January 1, 2025 from -45 dBm/MHz to -37 dBm/MHz.

**Issue 3-4: Additional spurious emission**

* Proposals
  + **Option 1:** Define NS for the limit currently defined at -45 dBm/MHz and then later, if the new limit takes effect, modify the NS to reflect the ECC limits.
  + **Option 2:** Already now define two different NSs for the two different spurious emission limits.
* Recommended WF
  + Agree one of the listed options

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Charter Communications Inc | Issue 3-2: We are in agreement with option 1  Issue 3-3: We are in agreement with option 1 |

### 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*

|  |  |  |
| --- | --- | --- |
|  | **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 #4: BS related

Discussions related to how the introduction of unlicensed operation in the range 5945-6425 MHz for the BS specification shall be treated.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2101931 | Nokia | **Observation 1:** The same efforts for channel arrangement alignment to other technologies intended deployed in the frequency range as used for the design of n96 should be applied.  **Observation 2:** There is no need to modify or add additional channel bandwidths, channel or synchronization raster points as already defined for band n96.  **Observation 3:** The European utilization of band n96 could be restricted done by modifying the notes in 38.104 Table 5.4.2.3-1 Table 5.4.3.3-1.  **Observation 4:** There is no need to modify or add additional requirements for output power besides the ones already defined for band n96.  **Observation 5:** There is no need to modify or add additional unwanted emission requirements besides the ones already defined for band n96.  **Observation 6:** There is no need to modify or add receiver requirements besides the ones already defined for band n96.  **Observation 7:** If band n96 is to be reused Note 4 in Table 5.2-1 of TS 38.104 shall be modified.  **Proposal 1:** Introduce the 5945 MHz to 6425 MHz frequency range for unlicensed operation in Europe using already defined band n96 with relevant modifications. |
| R4-2101966 | ZTE Corporation | **Proposal 1:** adopt the proposals in Table 1 (below).   |  |  | | --- | --- | | **General part** | | | (such as BS channel bandwidth, NR-ARFCN, channel arrangement. etc) | For the operating band 5925-6425MHz, it’s different from n96, therefore new band definition is needed, the corresponding channel raster, sync raster should be defined in general section. | | **Tx part** | | | Base station output power | All of these requirements are defined as band or channel bandwidth agnostic except for output power dynamics. i.e. no impact with introduction of Europe unlicensed 6GHz. | | Output power dynamics | | Transmit ON/OFF power | | Transmitted signal quality | | OBW | | Tx intermodulation | | ACLR | The requirement of US n96 should be applied for Europe unlicensed 6GHz. | | Operating band unwanted emissions | UEM requirements are defined as band dependent, UEM mask of US n96 should be also reused for Europe unlicensed 6GHz, however ΔfOBUE for Europe unlicensed 6GHz should follow the legacy offset ΔfOBUE as its frequency spanning range is still within maximum frequency spanning range of n77. | | Transmitter spurious emissions | Spurious emission requirement for n96 could also been applied for Europe unlicensed 6GHz. | | Rx part | | | (such as REFSEN, dynamic range, blocking, ACS, RX IMD, Rx spurious emission etc) | The Rx requirements e.g. REFSEN,dynamic range, ICS requirement, ACS, IBB, RX IMD are dependent. | | OOBB | Similar reason of Operating band unwanted emissions could also be applied for OOBB, therefore the legacy offset ΔfOOBB could be applied for Europe unlicensed 6GHz. | |

## Open issues summary

Except for the ΔfOBUE it seems there is no disagreement on what is needed to be modified to introduce unlicensed operation in the range 5945-6425 MHz. However, whether a new band should be defined or modifications should be done to band n96 is still to be resolved.

### Sub-topic 4-1

Discussion on ΔfOBUE for unlicensed operation in the range 5945-6425 MHz should follow band n46 or band n96.

**Issue 4-1**: **ΔfOBUE**

* Proposals
  + **Option 1:** Follow n46.
  + **Option 2:** Follow n96.
* Recommended WF
  + Agree one of the listed options

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 2-1:  Sub topic 2-2:  ….  Others: |

### 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** |
| R4-2101967 | 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*

|  |  |  |
| --- | --- | --- |
|  | **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”* |