[94e-45-R17-MUSIM-WID] - Version 0.0.5
RAN

RP-213622

3GPP TSG RAN Meeting #94e

Electronic Meeting, Dec. 6 - 17, 2021

Title: Moderator's summary of discussion [94e-45-R17-MUSIM-WID]

Source: RAN2 Vice-Chair (ZTE)

Document for: Discussion and decision

1 Introduction

A number of papers were submitted to RAN#94e, to discuss gaps for the Rel-17 MUSIM Work Item and the related RAN4 work.

RP-212921 suggests the following:

Proposal 1: Allocate TU in RAN4 for MUSIM to address the issues 1-1 (New periodic gap pattern), 1-2 (Gap for paging and SSB for AGC) and 2-1 (New aperiodic gap pattern) in the *WF on gap handling for MUSIM from RAN4#101-e meeting* [2].

RP-213260 suggests the following (while a revised WID in R2-213261 suggests to add RAN4 work accordingly):

Proposal 1: Remove restrictions on legacy gaps(#24,#25 gaps) and define new gap patterns in Rel -17 with the following

• New gap pattern: length (MGL) can be the same as legacy MGL or a subset of legacy MGL and longer MGRP equal to DRX cycles as {320, 640, 1280, 2560}

Proposal 2: Reuse existing RRM requirements and/or MG enhancement to be specified, if applicable, for the MUSIM gap patterns in Rel-17 time.

Proposal 3: Identify the remaining MUSIM gap RRM requirement in Rel-18 MUSIM enhancement WI

Proposal 4: Allocate 0.25 TU to R17 MUSIM per RAN4 meeting for remaining Rel-17 RAN4 meetings.

2 First round

Considering that the proposals in RP-213260 are a bit more specific, it is suggested to start the discussion from there.

Companies are then invited to provide feedback on the proposals below.

Proposal 1: Remove restrictions on legacy gaps(#24,#25 gaps) and define new gap patterns in Rel -17 with the following

• New gap pattern: length (MGL) can be the same as legacy MGL or a subset of legacy MGL and longer MGRP equal to DRX cycles as {320, 640, 1280, 2560}

Feedback Form 1: Comments on Proposal 1

1 – Apple (UK) Limited

We are fine to discuss how to modify the existing Note in gap pattern applicability table (such as Note 8 in TS 38.133 Table 9.1.2-3) with respect to #24 and #25. In our view, the intention of the proposal is to allow gap #24/#25 for MUSIM operation. However, this is different from removing the restriction. Specifically, if neither positioning measurement nor MUSIM operation is configured, #24 and/or #25 shall not be configured. Besides, we believe it is better to discuss such modification in RAN4, rather than in RANP.

2 – Ericsson LM

We are fine to add new gaps with MGRP equal to DRX cycles for MUSIM, and also make all current MGP applicable for MUSIM. We agree with Apple there is no need to remove current restriction on MGP # 24 and # 25.

RAN4 work should be limited only to the addition of new MUSIM MGP and applicability of current gaps.

3 – Charter Communications

We agree to remove the restrictions or add MUSIM to the restricted use cases for #24 and #25 gaps, however suggest that the discussion of the new gap patterns should takes place in RAN4 (and not in RANP).

4 – vivo Mobile Communication Co.

1 We agree that the motivation is add #24 and #25 gap also for MUSIM purpose. Apple's change is better.

2 We also support to introduce the new gap patterns in this proposal becasue it is also suggestion from RAN4.

5 – DENSO CORPORATION

From technical perspective, it is a reasonable way for the MUSIM scenarios. On the other hand, such a technical issue should be discussed and decided by RAN4 rather than TSG-RAN.

6 – QUALCOMM JAPAN LLC.

We agree with Apple what the intention of the proposal should be. Not only limited to those gap patterns #24 and #25, RAN4 will have to discuss applicability of existing measurement gap patterns for MUSIM purposes.

We support MGL extensions as proposed. This is in line with RAN4 feedback to RAN2.

7 – MediaTek Inc.

This is a RAN4 discussion because . We suggest to let RAN4 to discuss rather than deciding here in Plenary.

8 – Intel Corporation (UK) Ltd

We are OK to remove the restrictions on legacy gaps to make them applicable for MUSIM and to introduce new gap patterns for MUSIM purposes without defining the performance requirements. We would like to clarify with the proponents whether the intention is to make them applicable to MUSIM measurements only

9 – OPPO

For the restrictions on legacy MGP #24 and #25, we agree with Apple to modify the gap pattern applicability rules rather than remove them. Without such the restrictions, MGP #24 and #25 with longer MGL may be used for SSB with shorter SMTC window, leading to unnecessary throughput loss. But we think RAN4 should discuss the details instead of RANP.

10 – Huawei Technologies France

We are fine with the intention to allow MG pattern #24 and #25 to be used for MUSIM, and how to capture the applicability can be discussed in RAN4. We are also open to new MG patterns with larger MGRP and legacy MGL (or a subset of legacy MGL) as in Proposal 1, and the exact combinations of {MGRP, MGL} can be further discussed in RAN4 if RAN4 agrees to introduce new MG patterns for MUSIM.

11 – Nokia Corporation

We don't have issues of reusing existing gap patterns, but don't see why this needs to be discussed in RAN. RAN4 indicated this to RAN2, which can discuss the topic in the next meeting. RAN should only give guidance if it's needed. Hence, we think RAN need not say anything to RAN2 or RAN4 on this.

12 – ZTE Corporation

We are fine to apply gap pattern #24, #25 to MUSIM operation (not to simply remove the restriction), and we are also fine to add new gap patterns with MGRP equal to DRX cycles.

Moderator's summary: there is wide support for the proposal, with some comments that the "restrictions" should not be removed and that it should be up to RAN4 to work on the details. The following slightly revised proposal is then suggested:

Proposal 1: Invite RAN4 to make all current gap patters (i.e. including patterns #24/#25 in TS 38.133 Table 9.1.2-3) applicable for MUSIM operation and also to add new gap patterns for MUSIM with MGRP equal to DRX cycles.

Proposal 2: Reuse existing RRM requirements and/or MG enhancement to be specified, if applicable, for the MUSIM gap patterns in Rel-17 time.

Feedback Form 2: Comments on Proposal 2

1 – Apple (UK) Limited

The proposal is a bit unclear to us. Is this about the RRM requirements for NW A or NW B? In our understanding, once MUSIM is configured, UE may not be able to meet existing RRM requirement in NW A as confirmed in RAN4#101e that there are some potential impact on NW A. As for NW B, some of the

existing RRM requirements may apply such as cell search, measurement and so on.

2 – Ericsson LM

Firstly whether existing and R17 RRM requirements also apply or reused for MUSIM is RAN4 discussion. We don't think that we can conclude this in R17 since RAN4 needs to revisit and study impact of all the RRM requirements in MUSIM scenario. This is beyond the scope of R17.

3 – Charter Communications

We believe RRM requirements and MG enhancement need to be specified where they are applicable for MUSIM. Nevertheless, there are only 2 more meeting for Rel-17, so to be realistic, we think all of this (unfortunately) must be postponed to Rel-18, as part of Proposal 3.

4 – vivo Mobile Communication Co.

RAN4 can discuss if existing RRM requrimenet can be reused for MUSIM gap, e.g. whether UE can reuse RRM requirement in 256ms DRX period + one MUSIM gap case to 512ms DRX period without MUSIM gap. We assume that MUSIM gap can relax RRM requriment just like longer DRX pattern.

5 – DENSO CORPORATION

should be decided by RAN4.

6 – MediaTek Inc.

- Procedure-wise, we do not think this is a RP discussion. It should be left to RAN4 to check the requirement impact. Furthermore, we also do not think RAN4 has sufficient time in Rel-17 to identify the requirement impact. It is better to postpone all the requirement-related discussion to Rel-18.
- The proposal itself is not very clear to us. What is the requirement or scenario we are talking about? E.g.,
  - Configure a new gap with longer MGRP for MUSIM purpose only
  - Configure a new gap with longer MGRP for Rel-15/16 RRM measurement only
  - Configure a new gap with longer MGRP for both MUSIM and Rel-15/16 RRM measurement

7 – QUALCOMM JAPAN LLC.

We support this proposal in principle. It is good to reuse existing requirements "if found applicable". Probably nothing actionable from RAN side, but good target for RAN4 work.

8 – Intel Corporation (UK) Ltd

Agree to re-use existing RRM requirements if applicable and not define new performance requirements in Rel-17

9 – OPPO

We're fine to reuse the existing RRM requirements if applicable for R17 MUSIM discussion due to the limited remaining time, it's more suitable to discuss the new requirements in R18 for R17 MUSIM.

10 – Huawei Technologies France

We do not support the proposal. Due to limited time and already-high workload in RAN4, our preference is to not define RRM requirements for MUSIM in Rel-17. Even discussing which existing requirements and/or enhancements can be re-used and what are the applicable scenarios can be timing consuming, and we do not think it should part of Rel-17.

11 – Ericsson LM

Ericsson2: We would like to further reiterate that RAN4 task should be very clear and should be limited to defining only new MGPs and applicability of existing MGPs for MUSIM. For this work we can support 0.25 TU in Q1.

RAN4 should not discuss anything related to whether existing requirements apply or not. We share the same views as Huawei that this type of discussion will be very time consuming. RAN4 has to analyze the whole bunch of requirements for MUSIM. This is not possible in R17.

12 – vivo Mobile Communication Co.

For clarification about RRM requirement and new gap pattern, our intention is to discusss if the existing RRM requirement can be reused with minimized clarification in RAN4 . So detailed proposal,

RAN4 101 bis-e meeting: 1 Discuss for new gap patterns (e.g down-select from the legacy MGL set, add new MGRP)□2 Identify reusable RRM requirements for periodical gap patterns for MUSIM with minimized clarification.

RAN4 102: 1. Finalize the new gap pattern set for MUSIM purpose; 2 CRs for related specifications (TS38.133)□

13 – Nokia Corporation

Existing requirements work for existing measurements, but we think **RAN4 simply has no time to define MUSIM RRM requirements in Rel-17**. It's best to just define the RRM requirements in Rel-18, as there will anyway be Rel-18 MUSIM WI.

14 – ZTE Corporation

We think RAN4 do not have enough time to evaluate if existing gap requirements can be applicable or not, especially, it is impossible to evaluate whether R17 MGE requirements can be applicable or not in Rel-17. So we also prefer to defer all requirement related discussion to Rel-18.

Moderator's summary: There is some support for tasking RAN4 to check whether existing RRM requirements can be applicable or not for MUSIM gaps, as part of the R17 MUSIM work. However, most companies think that also this type of discussion will be very time consuming and then this would not be possible in the remaining time for R17. The following proposal is then suggested:

Proposal 2: Postpone all the discussion on RRM requirements related to MUSIM gaps to Rel-18. Whether this aspect will be covered under the R18 MUSIM WI or other RAN4 WI can be discussed as part of the Rel-18 RAN4 package.

Proposal 3: Identify the remaining MUSIM gap RRM requirement in Rel-18 MUSIM enhancement WI

Feedback Form 3: Comments on Proposal 3

1 – Apple (UK) Limited

We are fine with this proposal.

2 – Ericsson LM

It is not clear what is meant by 'remaining MUSIM gap RRM requirement'. There are NO requirements for MUSIM in R17. Only if there is consensus MGPs for MUSIM will be defined in R17.

In our view all requirements for MUSIM can earliest be defined in R18. But this is subject to TU availability since it will be part of R18 RAN4 package like any other item.

3 – Charter Communications

We are fine with this proposal.

4 – vivo Mobile Communication Co.

Yes.

5 – DENSO CORPORATION

Agree with Ericsson.

6 – MediaTek Inc.

As we mentioned in previous issue, we should postpone all the requirement-related discussion to Rel-18. In this sense, there is no such a 'remaining requirement' to be discussed.

7 – QUALCOMM JAPAN LLC.

We support the proposal. This obviously is not ideal, but we have to be pragmatic.

8 – Intel Corporation (UK) Ltd

This should be discussed as part of the Rel-18 WI package discussion

9 – OPPO

Agree with Ericsson

10 – Huawei Technologies France

We have same view as Ericsson. The word "remaining" is confusing as we do not expect RRM requirements for MUSIN are going to be defined in Rel-17. Whether to define MUSIM requirements in Rel-18 should be considered as part of the RAN4 package approval.

11 – vivo Mobile Communication Co.

For clarification about RRM requirement and new gap pattern, our intention is to discusss if the existing RRM requirement can be reused with minimized clarification in RAN4 . So detailed proposal,

RAN4 101 bis-e meeting: 1 Discuss for new gap patterns (e.g down-select from the legacy MGL set, add new MGRP)□2 Identify reusable RRM requirements for periodical gap patterns for MUSIM with minimized clarification.

RAN4 102: 1. Finalize the new gap pattern set for MUSIM purpose; 2 CRs for related specifications (TS38.133)□

12 – Nokia Corporation

We support having RAN4 (CORE part) work on RRM requirements for MUSIM in Rel-18 and would be fine to agree to the intent. But since RAN4 already identified there will be some impacts, it would be best to just agree to do something on those in Rel-18. Then what exactly is done is handled as part of normal RAN4 work in Rel-18. This also doesn't need to wait for RAN2 progress, and can start immediately as Rel-18 work begins in RAN4, allowing sufficient time for discussions.

13 – ZTE Corporation

As we commented to previous question, we prefer to postpone all requirements related discussion to Rel-18. Whether it is under R18 MUSIM WI or other RAN4 WI can be discussed as part of Rel-18 RAN4 WI discussion.

Moderator's summary: Most companies want to postpone the whole discussion on RRM requirements related to MUSIM gaps to Rel-18. This is already covered by the new proposal 2 above.

Proposal 4: Allocate 0.25 TU to R17 MUSIM per RAN4 meeting for remaining Rel-17 RAN4 meetings.

Feedback Form 4: Comments on Proposal 4

1 – Apple (UK) Limited

We are fine with this proposal. If new gap pattern, as mentioned in P1, are to be introduced, RAN4 TU is helpful.

2 – Ericsson LM

0.25 TU is fine under the assumption that RAN4 will only define new MGPs and applicability of existing MGPs for MUSIM in TS 38.133.

3 – Charter Communications

Agree, we support allocating 0.25 TU to be enable to add new gap patterns. We believe new gaps are what companies may manage to agree on, taking into account the short time we have left in Rel-17.

4 – vivo Mobile Communication Co.

0.25 TU per meeting is suitable.

5 – DENSO CORPORATION

O.K if it can fit into RAN4 TU budget.

6 – QUALCOMM JAPAN LLC.

We are OK with this proposal.

7 – MediaTek Inc.

We slightly prefer to move all the RAN4 discussions to Rel-18 due to very tight schedule to close all Rel-17 discussion in next quarter (which means 0 TU).

Regarding 0.25 TU, we have some questions for clarification about the plan:

- Will it only be used to introduce new gap patterns? (assuming that the exact patterns to be discussed in RAN4)
- Does it mean we also need to allocate some GTW time for this issue? Or this can be done purely based on Email discussion?

8 – Intel Corporation (UK) Ltd

We think that 0.25TUs for RAN4 RD session for January and February meetings is sufficient. The TUs shall be limited to Rel-17 Core part.

9 – Huawei Technologies France

We are open to add 0.25 TU to the remaining two RAN4 meetings. The RAN4 scope should be clearly defined, and in our view it should only include clarifying the applicability of existing MG patterns. On the possible new MG patterns, we are not sure if they need to be captured in RAN4 spec. It may be sufficient to include them in the RAN2 signaling to enable UE request and NW configuration of the new MG patterns.

10 – OPPO

We are fine with the proposal, but the RAN4 scope should be limited to define new gap pattern for R17 MUSIM. Any discussion on new RAN4 requirements for R17 MUSIM should be postponed.

11 – vivo Mobile Communication Co.

For clarification about RRM requirement and new gap pattern, our intention is to discusss if the existing RRM requirement can be reused with minimized clarification in RAN4 . So detailed proposal,

RAN4 101 bis-e meeting: 1 Discuss for new gap patterns (e.g down-select from the legacy MGL set, add new MGRP)□2 Identify reusable RRM requirements for periodical gap patterns for MUSIM with minimized clarification.

RAN4 102: 1. Finalize the new gap pattern set for MUSIM purpose; 2 CRs for related specifications (TS38.133)□

12 – Nokia Corporation

RAN4 is already in negative TUs and 0.25 TU doesn't really help much. It's better to just define all the MUSIM RRM requirements in Rel-18 (which doesn't even need any input from RAN2 to start in RAN4).

13 – ZTE Corporation

We are fine with this proposal, but we think think RAN4 work should be limited to e.g. "updating the restriction of existing MGs", "introducing new gap patterns". All requirements related discussion for MUSIM gap should be postponed to Rel-18.

Moderator's summary: Companies are generally fine to allocate RAN4 TUs for the remaining Rel-17 RAN4 meetings, but only to make existing gap patterns applicable for MUSIM and to define new gap patterns for MUSIM. The following proposal is then suggested:

Proposal 3: Allocate 0.25 RAN4 TUs to R17 MUSIM WI for the remaining Rel-17 RAN4 meetings, to make existing gap patterns in TS 38.133 applicable for MUSIM and to define new gap patterns for MUSIM as well.

Companies are then invited to add any other comments, if needed, related to the proposals in RP-212921, RP-213260 and RP-213261.

Feedback Form 5: Other comments

1 – QUALCOMM JAPAN LLC. As summarized in RP-213260, it is not conclusive in the discussion between RAN2 and RAN4, how to address the scenario 3 below. - **Scenarios 3:** Aperiodic (one shot) switching with both transmission and reception at network B but will not enter RRC connected state in NW B (e.g. no RRC connection Resume/Setup) at network B, including On demand SI request From our side, it is acceptable NOT to address the scenario 3 in release-17. It can be left to UE implementation whether to use the gap patterns that are specified to be applicable for other MUSIM scenarios.
2 – Ericsson LM Agree with Qualcomm.
3 – Nokia Corporation Is the intent to modify the WI to indicate this scenario shall not be considered in the WI? While we understand the point from QC, this doesn't seem like a RAN discussion and can be left up to RAN2 to discuss. That will anyway occur in RAN2 now that the RAN4 LS is being received in the next meeting.

Moderator's summary: There was some comment to suggest that it is acceptable not to address "scenario 3' in Rel-17. But there was also a response comment that this can be left to RAN2 discussion, when the RAN4 LS will be handled in the next meeting. No proposal for RAN plenary decision is then suggested.

3 Intermediate round

Companies are invited to comment on the following revised proposals:

Proposal 1: Invite RAN4 to make all current gap patters (i.e. including patterns #24/#25 in TS 38.133 Table 9.1.2-3) applicable for MUSIM operation and also to add new gap patterns for MUSIM with MGRP equal to DRX cycles.

Feedback Form 6: Comments to (intermediate round) Proposal 1

1 – Ericsson LM

We are fine with Proposal 1.

2 – vivo Mobile Communication Co.

For clarification, RAN2 also agreed to introduce one aperiodic gap for Multi-SIM, there is no RRM requirment needed to be discussed in R17 in RAN4. We do not preclude the aperiodic gap for Multi-SIM. So we suggest to change the wording as

”Proposal 1: Invite RAN4 to make all current gap patters (i.e. including patterns #24/#25 in TS 38.133 Table 9.1.2-3) applicable for MUSIM operation and also to add new gap patterns for MUSIM with MGRP equal to DRX cycles **including one aperiodic gap).**”

3 – Xiaomi Communications

We are fine with Proposal 1.

4 – MediaTek Inc.

It should be clarified that the DRX cycles are the IDLE DRX cycles for network B.

5 – Charter Communications

We are fine with Proposal 1.

6 – Apple (UK) Limited

We are fine with Proposal 1. One minor comment, should we clarify it as IDLE/INACTIVE DRX cycles ?

7 – Huawei Technologies France

We are fine with proposal 1.

8 – QUALCOMM JAPAN LLC.

Support proposal 2.

Our understanding is that we should cover both IDLE and INACTIVE in network B.

9 – Nokia Corporation

Why does RAN need to decide on this and allow ”all” gap patterns for MUSIM?

As we said before: It’s fine to allow RAN2/RAN4 to reuse existing gap patterns, but it’s less clear why RAN needs to make a decision that **all legacy gap patterns** are applicable to MUSIM. That’s really not something that RAN needs to decide but is a technical discussion in WGs.

So to be clear: We think proposal 1 is just statement that RAN2 and RAN4 discussions need not necessarily create new gap patterns but can reuse at least **some** of the legacy gap patterns. But this depends on how we signal those gaps, and RAN2 already decided on the following in RAN2#115e:

- ***8: The switching gap configuration will explicitly provide the gap starting position (e.g. offset value or start SFN and subframe explicitly), gap length and gap repetition period.***

So saying that all gaps ”must” be allowed for MUSIM is very strange when there has been zero technical discussion on anything else than the patterns #24 and #25. and those would anyway be not signalled using the existing gap pattern index (according to above agreement).

In summary, we are fine to state that the legacy gap patterns can be reused (and even state #24 and #25 as examples), but do not understand why there needs to be a blanket statement on all gap patterns - see below for more neutral way to describe proposal 1:

Proposal 1: Legacy gap patterns can be reused in Rel-17 MUSIM work (e.g. existing gap patterns #24 and #25).

10 – ZTE Corporation

We support Proposal1. The update version from Nokia on the first part looks fine to us, but we think the ”new gap pattern” part should be kept.

In fact, the term ”DRX cycle” (without IDLE) is used for both IDLE/INACTIVE and CONNECTED in RAN4 spec (TS 38.133). But if companies think it may cause confusion, we are fine to add ”IDLE/INACTIVE”, or directly say: ”equals to DRX cycles (i.e. 320ms, 640ms, 1280ms, 2560ms)”.

For ”aperiodic gap” raised by Vivo, we don’t think it can be added without discussion, especially because RAN4 just replied to RAN2 (in R4-2120342) that no consensus was made on aperiodic gap. So if needed, aperiodic gap can be further discussed in RAN4 instead of RANP.

11 – Nokia Corporation

We are again going for a very technical discussion in RANP, it seems. Let’s try to converge to something that helps the WGs to progress better.

We acknowledge the point from ZTE on the ”new DRX cycles” and MUSIM work could consider the (320, 640, 1280, 2560)ms values for MGRP (as those correspond to the paging cycle periodicity values for in IDLE mode, but this is about ”**paging** DRX cycle”, not just ”DRX cycle”. Hence, better make it clear those patters are about paging reception:

Proposal 1: Legacy gap patterns can be reused in Rel-17 MUSIM work (e.g. existing gap patterns #24 and #25). Additional MUSIM gap patterns corresponding to the paging cycle reception (i.e. with MGRP of 320, 640, 1280 or 2560ms) can be defined for Rel-17.

Moderator’s summary: The proposal seems largely agreeable, with some clarification on what is meant by eDRX cycle and without mandating that ”all” legacy gap patterns shall be applicable for MUSIM. Regarding the ”aperiodic gap” aspect, considering that so far in RAN4 there is no consensus on this (and there is no general support in RAN plenary), no RAN decision is proposed for this.

The following reformulation for P1 is then suggested:

Proposal 1: RAN4 is requested to capture in TS38.133 that legacy measurement gap patterns (as defined in TS 38.133 Table 9.1.2-1, and also including patterns #24 and #25) can be applicable for MUSIM operation and also to capture new gap patterns for MUSIM with MGRP equal to paging DRX cycles for IDLE/INACTIVE.

Proposal 2: Postpone all the discussion on RRM requirements related to MUSIM gaps to Rel-18. Whether this aspect will be covered under the R18 MUSIM WI or other RAN4 WI can be discussed as part of the Rel-18 RAN4 package.

Feedback Form 7: Comments to (intermediate round) Proposal 2

1 – Ericsson LM We are fine with Proposal 2.
2 – vivo Mobile Communication Co. we are ok with it.
3 – Xiaomi Communications We are fine with Proposal 2.
4 – Charter Communications We are fine with Proposal 2 and it will be further discussed as part of the Rel-18 RAN4 package.
5 – MediaTek Inc. ok with proposal 2
6 – Apple (UK) Limited We are fine with Proposal 2
7 – Huawei Technologies France In general we are fine with proposal 2. A slight change on the second sentence: Whether this aspect will be covered under the R18 WI (e.g., MUSIM WI or other RAN4 WI) can be discussed as part of the Rel-18 RAN4 package.
8 – QUALCOMM JAPAN LLC. Proposal 2 is acceptable to us.
9 – Nokia Corporation We are fine with proposal 2. We can discuss the exact details in March (even if don't really see why these would not be part of the Rel-18 MUSIM WI - that would be the most logical choice).
10 – ZTE Corporation We are fine with Proposal 2.

Moderator's summary: The proposal is agreeable (some wording changes were suggested but they don't really seem to change too much).

It is suggested to agree P2 as is:

Proposal 2: Postpone all the discussion on RRM requirements related to MUSIM gaps to Rel-18. Whether this aspect will be covered under the R18 MUSIM WI or another RAN4 WI can be discussed as part of the Rel-18 RAN4 package.

Proposal 3: Allocate 0.25 RAN4 TUs to R17 MUSIM WI for the remaining Rel-17 RAN4 meetings, to make existing gap patterns in TS 38.133 applicable for MUSIM and to define new gap patterns for MUSIM as well.

Feedback Form 8: Comments to (intermediate round) Proposal 3

1 – Ericsson LM

We are fine with Proposal 3.

2 – Intel Corporation (UK) Ltd

The Rel-17 Core part in RAN4 is scheduled to finish in March 2022 and we suggest to clarify specific RAN4 meetings. Also, it would be good to clarify that it is applicable to RRM Core part (i.e. need to request RAN4 RD TUs). So we propose the following update:

Proposal 3: Allocate 0.25 RAN4 RD TUs to R17 MUSIM WI Core part for the remaining Rel-17 RAN4 meetings (i.e. RAN4 #101bis-e and RAN4 #102-e), to make existing gap patterns in TS 38.133 applicable for MUSIM and to define new gap patterns for MUSIM as well.

3 – vivo Mobile Communication Co.

We confirm that 0.25 TU is for RD session. we are also fine with intel's wording.

4 – Xiaomi Communications

We are fine with Proposal 3.

5 – Charter Communications

We are fine with Proposal 3.

6 – Apple (UK) Limited

We are fine with Proposal 3.

7 – Huawei Technologies France

We are fine with proposal 3.

8 – QUALCOMM JAPAN LLC.

We are fine with proposal 3 and the modification suggested by Intel.

9 – Nokia Corporation

Fine with the intent if RAN4 chair can ensure there are TUs (as RAN4 is already very much overloaded), but would like to understand the RAN4 work better: What exactly will RAN4 discuss in January and February? Which gap patterns to enable for which purpose? Or something else?

10 – ZTE Corporation

We are fine with Proposal 3.

11 – Nokia Corporation

One more clarification: In case we now add RAN4 as impacted group, we wanted to make sure RAN4 objectives are clear. So is the intent to update the WI with the RAN4 tasks at the same time?

Moderator's summary: The proposal is agreeable, with the additional changes suggested by Intel. Also it makes sense to update the WID to indicate RAN4 involvement and to list TS 38.133 as affected spec.

It is suggested to agree on the following proposals:

Proposal 3: Allocate 0.25 RAN4 RD TUs to R17 MUSIM WI Core part for the remaining Rel-17 RAN4 meetings (i.e. RAN4 #101bis-e and RAN4 #102-e), to make existing gap patterns in TS 38.133 applicable for MUSIM and to define new gap patterns for MUSIM as well.

Proposal 4: Update the R17 MUSIM WID to indicate RAN4 involvement and to list TS 38.133 as affected specification.

4 Final round

Considering the wide support, it is assumed that the updated proposals P1 P4 after the intermediate round can be put for final agreement with no need for another round of offline discussion (and then are copied to the Conclusion section).

The final round of discussion could focus on the actual revision of the R17 MUSIM WID, where RAN4 involvement should be indicated and TS 38.133 listed as affected specification.

Companies are then invited to comment on whether anything else is needed in the revision of the R17 MUSIM WID, besides:

1. the addition of ", RAN4" to the list of affected WGs for objective 2 (as suggested in RP-213261)

2. the addition of TS 38.133 to the list of affected specification.

Feedback Form 9: Comments on the R17 MUSIM WID revision

1 – Huawei Technologies France

Thanks moderator for the final round suggestion. We would like to make the RAN4 scope clear in the updated WID, which was also suggested by Nokia in the intermediate round. Specifically, we suggest to capture Proposal 3 from the moderator as either a sub-bullet under Objective 2 or as a new Objective 4, with RAN4 as the involved WG.

2 – vivo Mobile Communication Co.

We agree with changes in RP-213261, For detailed descreption about RAN4 work in WID, we do not think it is needed if we agree the above proposals in RAN plenary meeting. all our understanding will be same based on agreements.

3 – MediaTek Inc.

We prefer to make RAN4 work clarified in the revised WID to avoid future confusion in RAN4. We can simply capture Proposal 3 in the objectives. The current description in WI is too high level.

4 – Nokia Corporation

We think it would be good to describe what RAN4 needs to do in the WI. The moderator proposal 1 in conclusion section captures this well - RAN4 needs to capture the applicability of gap patterns for MUSIM. How exactly this is done is then up to RAN4.

Moderator's summary: Based on the feedback, the WID should also be updated with a clear objective for RAN4, based on Proposal 3 (which clarifies the intention and is generic enough).

Proposal 4 is then revised as follows:

Proposal 4: Update the R17 MUSIM WID to ~~indicate RAN4 involvement~~ add a new Objective 4: "Specify that existing gap patterns in TS 38.133 can be applicable for MUSIM and also define new gap patterns for MUSIM [RAN4]" and to list TS 38.133 as affected specification.

5 Conclusions

The following proposals are suggested for agreement.

Proposal 1: RAN4 is requested to capture in TS38.133 that legacy measurement gap patterns (as defined in TS 38.133 Table 9.1.2-1, and also including patterns #24 and #25) can be applicable for MUSIM operation and also to capture new gap patterns for MUSIM with MGRP equal to paging DRX cycles for IDLE/INACTIVE.

Proposal 2: Postpone all the discussion on RRM requirements related to MUSIM gaps to Rel-18. Whether this aspect will be covered under the R18 MUSIM WI or another RAN4 WI can be discussed as part of the Rel-18 RAN4 package.

Proposal 3: Allocate 0.25 RAN4 RD TUs to R17 MUSIM WI Core part for the remaining Rel-17 RAN4 meetings (i.e. RAN4 #101bis-e and RAN4 #102-e), to make existing gap patterns in TS 38.133 applicable for MUSIM and to define new gap patterns for MUSIM as well.

Proposal 4: Update the R17 MUSIM WID to add a new Objective 4: "Specify that existing gap patterns in TS 38.133 can be applicable for MUSIM and also define new gap patterns for MUSIM [RAN4]" and to list TS 38.133 as affected specification.