**3GPP TSG RAN meeting #100 RP-230xxxx**

**Taipei, June 12 - 14, 2023**

## Status Report to TSG

**Agenda item:** 9.3.2.3

|  |  |
| --- | --- |
| **WI / SI Name** | **Dual Transmission/Reception (Tx/Rx) Multi-SIM for NR** |
| included in this status report | Study Item: No | Core part: Yes | Performance part:Yes | Testing part:- |
| **Acronym** | NR\_DualTxRx\_MUSIM |
| **Unique ID** | 941001 |
| **TSG Tdoc of latest approved WI/SI description (if any)** | RP-230751 |
| **Target Completion Date****(indicate if changed)** | Study Item: - | Core part: 12/2023 | Performance part: 06/2024 | Testing part: - |
| **Overall Completion level** | Study Item: - | Core part: Overall: 40%  | Performance Part: -Overall: 0% | Testing part: - |

Note: Overall completion level percentage numbers should use one of the colors below:

* xx%: Normal progress, no RAN plenary action needed
* xx%: Progress behind schedule, may need RAN plenary intervention. If so, SR should clearly define requested action
* xx%: Progress critically behind, RAN plenary shall intervene. SR should define requested action

**Source:**

|  |  |
| --- | --- |
| **Leading WG** | RAN2  |
| **Rapporteur** | **Name** | Xiaodong Yang |
| **Company** | vivo |
| **Email** | Yangxiaodong5g@vivo.com |

## 1 Work plan related evaluation

|  |  |
| --- | --- |
| **Do you want to modify the time budget for this WI/SI compared to what was endorsed at the last RAN meeting?** |  |

*If you answered No: Then please remove the Excel file from the zip file of this status report.*

*If you answered Yes: Then please fill out the attached Excel template to request a modification of the time budgets for your WI /SI. The Excel table has to be filled out for all affected RAN WGs and up to the target date of the WI/SI. The basis are the endorsed time budgets of the last RAN meeting. Please highlight all changes of the values.
 One time unit (TU) corresponds to ~ 2 hours in the meeting.
 If this status report covers a WI with Core and Performance part, then please have one line for each in the attached Excel table.
 Note: If no Excel table is attached, then this means no time budget change.*

## 2. Detailed progress in RAN WGs since last TSG meeting (for all involved WGs)

 NOTE: Agreements and Open issues impacted cross-TSG aspects shall be explicitly highlighted

## 2.1 RAN1

#### 2.1.1 Agreements

#### 2.1.2 Remaining Open issues

## 2.2 RAN2

#### 2.2.1 Agreements

**RAN2 121 bis**

**Temporary capability restriction**

* Consider “proactive” approach (wherein the UE can request capability restrictions which can be independent of current RRC configuration if allowed by the NW) to MUSIM capability restrictions in addition to the reactive approach (which has been agreed previously). Such a mechanism shall still be under NW control, i.e. it is up to network whether to allow such signalling. FFS on the details – should aim for a common framework for the reactive and proactive approach. FFS on UE capabilities
* Support “early indication” from UE to network during RRC connection setup/resume procedure.
* FFS how to indicate this and in which message. The indication will tell network that UE capabilities are temporarily restricted.
* FFS on details (i.e. when UE can indicate this, what does it indicate, how does it relate to UAI, etc.)
* No consensus to support UE-initiated SCell deactivation for MUSIM in Rel-18.
* 1: For Rel-18 MUSIM dual active operation, the maximum MIMO layer may be changed and the change can be indicated to the NW. FFS if this is only for NW A or also NW B.
* 3: For Rel-18 MUSIM dual active operation, the measurement gap requirement may be changed and the change can be indicated to the NW. FFS if this is only for NW A or also NW B.
* 4: For Rel-18 MUSIM dual active operation, the measurement gap requirement change is reported for each serving cells, and for target bands or all supported NR bands depending on whether target bands are configured by the NW. FFS on whether the reporting can reuse the current *needForGapInfoNR* in RRC reconfiguration complete or extend the similar function in UAI. FFS if this is only for NW A or also NW B.
* 8: The maximum UL power may be changed due to Rel-18 MUSIM dual active operation, but there is no need to introduce any new UE behavior for reporting this change.
* 6: UE can explicitly request specific serving cells or serving cell group to be released for Rel-18 MUSIM purpose. FFS how/whether this works for the proactive case.
* 9: RAN2 should avoid duplicating all the capabilities that UE reports via the *UECapabilityInformation* in the UAI for R18 MUSIM purpose.
* RAN2 can discuss P2, P5 and P7 from [R2-2304397](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_121bis-e/Docs/R2-2304397.zip) during RAN2#123.

**R17 MUSIM Gap coordination**

* RAN2 will aim to address the RAN4 LS in Rel-18 signalling. Should discuss how to handle Rel-17 gaps without priority (e.g. lowest, highest, network-decided somehow, etc.). Handled in email [231]
* 1: Introduce 1 optional per-UE capability bit (without xDD/FRx differentiation) to indicate MUSIM gap priority configuration and preference. A UE supporting this feature shall also support musim-GapPreference-r17.
* 2: Introduce a new indication in the OtherConfig to indicate whether UE is allowed to report MUSIM gap priority preference via UAI.
* 4: The existing IE GapPriority-r17 is re-used to configure the priority for periodic MUSIM gap.

**Other**

* 9: RAN2 assumes no RAN4 impact is expected on maximum UL power change due to R18 MUSIM. Can re-discuss if critical issues are found in RAN2.

#### 2.2.2 Remaining Open issues

1 Continue to discuss the mechanism to indicate preference on temporary UE capability restriction in NW A for MUSIM purpose.

2 MUSIM Gap coordination and priority handling

3 UE Capability definition and reporting for R18 MUSIM

## 2.3 RAN3

#### 2.3.1 Agreements

#### Remaining Open issues

## 2.4 RAN4

#### 2.4.1 Agreements

**RAN4 106bis**

**Issue 1-1-3: Total number of gaps when MUSIM gaps are configured**

*Agreement*

*P2 with wording update as the following:*

* When MUSIM gaps are configured and Rel-17 Con-MGs is not configured or supported, the number of legacy MGs can be
	+ Up to 1 per-UE MG, or
	+ Up to 1 per-FR MG in each FR
* When MUSIM gaps are configured, when Rel-17 con-MG is configured, the number of legacy MGs can be one of the following cases:
	+ Up to 2 per-UE MGs
	+ Up to 2 per-FR MGs in each FR and up to 3 per-FR MGs across FRs
	+ Up to 1 per-UE MG and up to 1 per-FR MG in each FR

P3: Allocation of MUSIM gaps does not impact the non-MUSIM gap allocation capability.

**Issue 2-1-2: Priority/usage indication on MUSIM gaps from UE side**

*Agreements:*

*Agree P2 -* Network A assigns priority levels to all configured periodic MUSIM gaps even if UE does not indicate preferred priority for one or some periodic MUSIM gaps

**Issue 2-1-2-1: On how to delivery priority/usage indication on MUSIM gaps from UE side**

GTW agreement:

* + It is RAN4 understanding that the signalling design of priority levels indication/configuration for MUSIM gaps is up to RAN2 decision.

**Issue 2-1-5: Priority setting for aperiodic MUSIM gaps**

Agreements from GTW

* + Option 1
		- The priority level of aperiodic MUSIM gap can be configured by NW A
		- If the priority level is not configured by NW A then the aperiodic MUSIM gap by default has the highest priority level
		- The aperiodic MUSIM gap priority level can be optionally requested by UE from NW A
	+ Option 2
		- Aperiodic MUSIM gap by default has the highest priority level.
		- The gap priority level is not explicitly configured by the NW

**Issue 2-3-1: Solutions for collision between MUSIM gap and Type-2 MG**

*Agreements:*

Update previous agreement “Priority-based gap collision handling introduced in concurrent gaps design can be used as a base for collisions between MUSIM gap and Type -2 MG” in R4-2220443 as the following:

Priority-based gap collision handling rule introduced in Rel-17 MG\_enh WI is reused to solve collisions between MUSIM gap and Type -2 MG.

**Issue 2-4-1: Definition of the collision between MUSIM gaps and L1/L3 measurement resources**

*Agreements:*

* A L1/L3 measurement resource is considered to be fully overlapped with a periodic MUSIM gap if all of the resource instances overlap with MUSIM gap occasions in the time domain
* A L1/L3 measurement resource is considered to be partially overlapped with a periodic MUSIM gap if some but not all of the resource instances overlap with MUSIM gap occasions in the time domain
* A L1/L3 measurement resource is considered to be overlapped with an aperiodic MUSIM gap if it at least one of its resource instances overlaps with the aperiodic MUSIM gap occasion in the time domain

**Issue 2-4-2: Priority of MUSIM against SMTC for L3/ L1 measurement**

*Agreements*

*P1 -* MUSIM gaps have higher priority when colliding with SMTC/SSB for L3/L1 measurement.

**Issue 3-1-3: On the time window W for aperiodic gap**

*Agreements:*

*P1 -* Not take aperiodic gap into account when determining the time window W, and clarify that the related measurement period will be longer

**Issue 4-1-2: Network B requirements framework**

*Agreements:* P2: The measurement/cell reselection requirements in IDLE/inactive mode for NW B could reuse the existing idle/inactive requirements as the baseline

**RAN4 107**

**Issue 1-1-2: MUSIM overhead**

*Agreement: Option 1.*

Option 1: Do not define overhead cap for MUSIM gaps

**Issue 2-2-2: Solutions for collision between different MUSIM gaps**

*Agreements*

* + Define two solutions for collision handling between different MUSIM gaps
		- 1) Priority based solution (i.e., network controls the MUSIM gaps priority)
		- 2) “Keep” solution (i.e., keep all collided MUSIM gaps)
	+ FFS on the mechanism to select and/or switch between the solutions

**Issue 2-4-3: Collision between SMTC and MUSIM gaps for handover and Scell activation**

Agreements

* When MUSIM gaps are configured, UE is still required to meet Scell activation RRM requirements for NW-A. FFS whether to capture this conclusion in the specifications.
	+ - No test case will be defined to verify this case
* FFS whether the agreement applies for handover

**Issue 4-1-6: Others NW B requirements**

*Agreement: P1*

P1: NW B requirements for measurements of intra-frequency/ inter-frequency NR cells and inter-RAT E-UTRAN cells for UE configured with relaxed measurement criterion are not considered in Rel-18

#### 2.4.2 Remaining Open issues

1. Collisions between gaps and priority rules

2. On network A requirements

3. On network B requirements

## 3. Detailed progress in SA/CT WGs since last TSG meeting (for all involved WGs)

NOTE: This section only needs to be filled in for WI/SIs where there is a corresponding relevant WI/SI in SA/CT.

## 3.1 SAx/CTs

#### 3.1.1 Agreements with cross-TSG impacts

#### 3.1.2 Remaining Open issues with cross-TSG impacts

NOTE: This section should also flag any critical dependencies that need TSG attention.

## 4. RAN Plenary Intervention

## 5. References

NOTE: This can be e.g. a list of all related Tdocs in the affected WGs since last TSG, references to LSs, produced TRs/TSs, the work/study item description or status reports of previous TSGs.

**RAN2 #121 bis**

R2-2302430 LS on priority for MUSIM gaps (R4-2303249; contact: vivo) RAN4 LS in Rel-18 NR\_DualTxRx\_MUSIM-Core To:RAN2

R2-2303266 MUSIM Stage 2 running CR vivo discussion Rel-18

R2-2302550 Procedures for MUSIM temporary capability restriction OPPO discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2302721 UE Capability restrictions for Dual-Active MUSIM Qualcomm Incorporated discussion

R2-2302725 Consideration on capability restriction for dual Rx/Tx MUSIM DENSO CORPORATION discussion NR\_DualTxRx\_MUSIM-Core

R2-2302781 Further considerations on the capability restriction request for Rel-18 MUSIM Intel Corporation discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303188 Baseline signalling procedure options for temporary capability restrictions. Nokia, Nokia Shanghai Bell discussion

R2-2303225 Procedure of dual Tx/Rx Multi-SIM Lenovo discussion Rel-18

R2-2303267 Procedures for MUSIM temporary capability restriction vivo discussion Rel-18

R2-2303409 Procedures for MUSIM temporary capability restriction Apple discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303639 Overall Dual-RX/TX MUSIM procedure Ericsson discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303669 Procedures for MUSIM temporary capability restriction Samsung R&D Institute India discussion

R2-2303774 Procedure of UE Capability Restriction for eMUSIM Sharp discussion

R2-2303874 Temporary Capability Restriction for Idle/Inactive State Transfer ZTE Corporation, Sanechips discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2304026 Procedures for MUSIM Temporary Capa Restriction LG Electronics discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2302551 Allowed MUSIM temporary capability restrictions OPPO discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2302782 Signalling to indicate temporary capability reduction for Rel-18 MUSIM Intel Corporation discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2302966 Allowed MUSIM temporary capability restrictions Samsung R&D Institute India discussion Rel-18

R2-2303189 Adidtional aspects related to capability restriction signalling Nokia, Nokia Shanghai Bell discussion

R2-2303268 Discussion on temporary capability restriction for Rel-18 Multi-SIM vivo discussion Rel-18

R2-2303350 Capability sharing issue for SRS Tx switching capability Xiaomi discussion Rel-18 NR\_DualTxRx\_MUSIM-Core R2-2301116

R2-2303351 Remaining issues on band combination restrictions due to band conflict Xiaomi discussion Rel-18 NR\_DualTxRx\_MUSIM-Core R2-2301117

R2-2303410 Parameters for MUSIM temporary capability restriction Apple discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303455 Further discussion on the UE-initiated SCell/SCG deactivation and activation for MUSIM Huawei, HiSilicon, Vodafone, Vivo discussion Rel-18

R2-2303470 Further discussion on MUSIM temporary capability restrictions Huawei, HiSilicon discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303623 Discussion on temporary UE capability restriction for MUSIM MediaTek Inc. discussion R2-2300816

R2-2303624 Disucssion on UE capability restriction signaling China Telecommunications discussion

R2-2303640 Discussion on restricted UE capabilities Ericsson discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303779 Support of UE requesting SCell/SCG Deactivation for eMUSIM Sharp discussion

R2-2303873 Consideration on the Temporary Capability Restriction ZTE Corporation, Sanechips discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303938 Discussion on temporary capability restriction for Dual Tx/Rx Multi-SIM ASUSTeK discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2304027 Simple Methods for MUSIM Temporary Capa Restriction LG Electronics discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2302724 Remaining issues for MUSIM gaps Qualcomm Incorporated discussion

R2-2302783 Gap collision handling for Rel-17 gaps Intel Corporation discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303190 On MUSIM gap priority and uplink power sharing aspects of MUSIM operation Nokia, Nokia Shanghai Bell discussion

R2-2303269 Discussion on MUSIM gap priorities vivo discussion Rel-18

R2-2303352 Discussion on MUSIM gap priorities Xiaomi discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303411 Views on RAN4 LS for MUSIM gap priorities Apple discussion Rel-17 LTE\_NR\_MUSIM-Core

R2-2303471 Discussion on MUSIM gaps and other RAN4 topics Huawei, HiSilicon discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303641 MUSIM gap priorities Ericsson discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303828 Discussion on MUSIM gap priorities and maximum UL power change Samsung Electronics Austria discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303875 Consideration on the Scheduling Gap Priority ZTE Corporation, Sanechips discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2303937 Discussion on maximum UL power change for Dual Tx/Rx Multi-SIM ASUSTeK discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

R2-2304028 MUSIM Gap Priority LG Electronics discussion Rel-18 NR\_DualTxRx\_MUSIM-Core

**RAN4 #106bis**

R4-2304079 Further considerations on general aspects for MUSIM gaps vivo

R4-2304080 Further considerations on collisions between gaps and priority rules for MUSIM gaps vivo

R4-2304081 Further considerations on network A requirements for RRM requirements of MUSIM gaps vivo

R4-2304082 Further considerations on network B requirements for RRM requirements of MUSIM gaps vivo

R4-2304297 On R18 MUSIM - General aspects Apple

R4-2304298 On R18 MUSIM - collisions between gaps and priority rules Apple

R4-2304299 On R18 MUSIM - network A requirements Apple

R4-2304300 On R18 MUSIM - network B requirements Apple

R4-2304516 LS on priority for MUSIM gaps vivo

R4-2304616 Discussion on the general aspects of MUSIM gaps MediaTek inc.

R4-2304617 Discussion on RRM requirements for MUSIM gaps collision handling MediaTek inc.

R4-2304618 Discussion on NW A RRM requirements for MUSIM MediaTek inc.

R4-2304619 Discussion on NW B RRM requirements for MUSIM MediaTek inc.

R4-2304777 Discussion on general issues for Rel-17 MUSIM gaps Xiaomi

R4-2304778 Discussion on collisions between gaps and priority rules for Rel-17 MUSIM gaps Xiaomi

R4-2304779 Discussion on network A requirements for Rel-17 MUSIM gaps Xiaomi

R4-2304780 Discussion on network B requirements for Rel-17 MUSIM gaps Xiaomi

R4-2304849 Discussion on collisions between gaps and priority rules for MUSIM gaps CMCC

R4-2304850 Discussion on network A requirements for MUSIM gaps CMCC

R4-2304851 Discussion on network B requirements for MUSIM gaps CMCC

R4-2304852 Discussion on open issues for MUSIM gaps CMCC

R4-2304884 Discussions on general issues in MUSIM gaps Ericsson

R4-2304885 Discussions on collision between MUSIM gaps Ericsson

R4-2304886 Discussions on NW-A’s requirement in MUSIM gaps Ericsson

R4-2304887 Discussions on NW-B’s requirement in MUSIM gaps Ericsson

R4-2305032 Discussion on collisions between gaps and priority rules ZTE Corporation

R4-2305033 Discussion on Network A requirements ZTE Corporation

R4-2305034 Discussion on Network B requirements ZTE Corporation

R4-2305223 Discussion on general RRM requirements for Rel-17 MUSIM gaps OPPO

R4-2305224 Discussion on collision between gap and priority rules OPPO

R4-2305225 Discussion on network A requirements OPPO

R4-2305330 Discussion on collision handling for MUSIM gaps Huawei, HiSilicon

R4-2305331 Discussion on NW-A requirements with MUSIM gaps Huawei, HiSilicon

R4-2305332 Discussion on NW-B requirements with MUSIM gaps Huawei, HiSilicon

R4-2305333 Discussion on general issues related to MUSIM gaps Huawei, HiSilicon

R4-2305550 Discussion on General aspects Nokia, Nokia Shanghai Bell

R4-2305551 Collisions between gaps and priority rules Nokia, Nokia Shanghai Bell

R4-2305552 On network A requirements Nokia, Nokia Shanghai Bell

R4-2305553 On network B requirements Nokia, Nokia Shanghai Bell

R4-2305668 On requirements for Rel-17 MUSIM gaps - Gap collisions Qualcomm Incorporated

R4-2305669 On requirements for Rel-17 MUSIM gaps - Network A requirements Qualcomm Incorporated

R4-2305670 On requirements for Rel-17 MUSIM gaps - Network B requirements Qualcomm Incorporated

R4-2305697 Discussion on collisions between gaps and priority rules of MUSIM Charter Communications, Inc

R4-2306168 Topic summary for [106-bis-e][220] NR\_DualTxRx\_MUSIM Moderator (Vivo)

R4-2306251 Topic summary for [106-bis-e][220] NR\_DualTxRx\_MUSIM Moderator (Vivo)

R4-2306357 WF on NR Dual TxRx Multi-SIM Vivo

**RAN4 #107**

R4-2307447 Considerations on issues for general aspects for MUSIM gaps vivo

R4-2307448 Considerations on issues for collisions between gaps and priority rules for MUSIM gaps vivo

R4-2307449 Considerations on issues for network A RRM requirements of MUSIM gaps vivo

R4-2307450 Considerations on issues for network B RRM requirements of MUSIM gaps vivo

R4-2307568 Discussion on collisions between gaps and priority rules for MUSIM gaps CMCC

R4-2307569 Discussion on network A requirements for MUSIM gaps CMCC

R4-2307570 Discussion on network B requirements for MUSIM gaps CMCC

R4-2307571 Discussion on open issues for MUSIM gaps CMCC

R4-2307653 Discussion on general aspects of R18 MUSIM Apple

R4-2307654 Discussion on collisions between gaps and priority rules of R18 MUSIM Apple

R4-2307655 Discussion on network A requirements of R18 MUSIM Apple

R4-2307656 Discussion on network B requirements of R18 MUSIM Apple

R4-2307960 Discussion on general issues for Rel-17 MUSIM gaps Xiaomi

R4-2307961 Discussion on collisions between gaps and priority rules for Rel-17 MUSIM gaps Xiaomi

R4-2307962 Discussion on network A requirements for Rel-17 MUSIM gaps Xiaomi

R4-2307963 Discussion on network B requirements for Rel-17 MUSIM gaps Xiaomi

R4-2308047 Discussion on collisions between gaps and priority rules ZTE Corporation

R4-2308048 Discussion on Network A requirements ZTE Corporation

R4-2308049 Discussion on Network B requirements ZTE Corporation

R4-2308437 Discussions on general issues in MUSIM gaps Ericsson

R4-2308438 Discussions on collision between MUSIM gaps Ericsson

R4-2308439 Discussions on NW-A’s requirement in MUSIM gaps Ericsson

R4-2308440 Discussions on NW-B’s requirement in MUSIM gaps Ericsson

R4-2308470 Discussion on general RRM requirements for Rel-17 MUSIM gaps OPPO

R4-2308471 Discussion on collision between gap and priority rules OPPO

R4-2308472 Discussion on network A requirements OPPO

R4-2308662 Discussion on general issues related to MUSIM gaps Huawei, HiSilicon

R4-2308663 Discussion on collision handling for MUSIM gaps Huawei, HiSilicon

R4-2308664 Discussion on NW A requirements with MUSIM gaps Huawei, HiSilicon

R4-2308665 Discussion on NW B requirements with MUSIM gaps Huawei, HiSilicon

R4-2308772 Discussion on General aspects Nokia, Nokia Shanghai Bell

R4-2308773 Collisions between gaps and priority rules Nokia, Nokia Shanghai Bell

R4-2308774 Network A requirements Nokia, Nokia Shanghai Bell

R4-2308775 Network B requirements Nokia, Nokia Shanghai Bell

R4-2309126 On requirements for Rel-17 MUSIM gaps - Gap collisions Qualcomm Incorporated

R4-2309127 On requirements for Rel-17 MUSIM gaps - Network A requirements Qualcomm Incorporated

R4-2309128 On requirements for Rel-17 MUSIM gaps - Network B requirements Qualcomm Incorporated

R4-2309551 Discussion on the general aspects of MUSIM gaps MediaTek inc.

R4-2309552 Discussion on RRM requirements for MUSIM gaps collision handling MediaTek inc.

R4-2309553 Discussion on NW A RRM requirements for MUSIM MediaTek inc.

R4-2309554 Discussion on NW B RRM requirements for MUSIM MediaTek inc.

R4-2309970 Topic summary for [107][225] NR\_DualTxRx\_MUSIM Moderator (Vivo)

R4-2310069 WF on MUSIM RRM requirements vivo

R4-2310165 WF on MUSIM RRM requirements vivo