**3GPP TSG-RAN WG4 Meeting #116 R4-2511776**

**Bengaluru, India, August 25th – 29th, 2025**

**Source:** Xiaomi, MediaTek Inc., OPPO

**Title:** WF on Modified MPR Behavior

**Agenda item:** 4.2.1

**Document for:** Approval

# Background

Discussions and CRs are submitted in RAN4#116 to discuss the modified MPR behavior issue for TS 38.101-1. General rules for future releases and how to improve R19 and earlier releases are discussed. The agreements are captured in this WF.

# Common understanding and general rules for future releases

The followings are agreed to guide the handling on the *modifiedMPR-Behavior* bits in TS 38.101-1 from release 20.

1. The following wording will be used in TS 38.101-1 and 38.101-2 spec to indicate whether the bit is set or not.
   * “The bit is set to 1” and “The bit is set to 0”
     + The following are clarifications for better understanding, but they will not be included in the spec.
       - If at least one modifiedMPR bit in the bit string for the band is set to 1 by UE, UE shall send the entire bit string including the bits with value 0.
       - If all bits are set to 0, UE may omit sending the bit string and then network interprets all the bits in the bit string are set to 0.
2. For the open release in which the MPR/AMPR requirements are modified, and also for the later releases, the new MPR/AMPR requirements are applied. For releases earlier than this modification, the new MPR/AMPR requirements may be applied depending on UE indication.
   * For example, if MPR requirement is changed/updated for R19 specification before Rel-19 ASN.1 freeze, the modifiedMPR-Behaviour bit “shall**”** be set to 1 for R19 UE. For early releases, the modifiedMPR-Behaviour bits “may” be set to 1.
   * Some exceptions can be discussed case by case and no impact to on-going product development is expected.
3. If different UE types have different requirements, separate ModifiedMPR-Behavior bit is used.
4. For spec version number, the followings are some candidates for further discussion in next meeting.
   * Keep the version number and add the following note outside the table.
     + NOTE 2: Specification version in the “Definition” column in Table L.1-1 refer to the version N in which the requirements were modified. If UE supports release P which is later than release N then UE supports requirements defined in that release P.
   * Remove the version number following the approach similar with 38.101-2.
   * Remove the version number and using wording like “MPR/AMPR defined in clause xxx of present specification”.
   * Other solutions are not excluded.
5. If the requirements are changed (tighten or relaxation) more than once, further discuss the following Options:
   * Option 1: Use separate *ModifiedMPR-Behavior* bits for the second changed MPR/AMPR
     + Note: Error correction can be made but the *modifiedMPR-Behaviour* bit is kept unchanged
   * Other options are not excluded

# Improvement/correction of existing requirements R15-R19

The followings are agreed to guide the improvement/correction on the *modifiedMPR-Behavior* bits in TS 38.101-1 for R19 and the earlier releases.

1. Wording correction to indicate whether the bit is set or not follows the agreements in clause 2.
2. “shall” or “may” can be discussed by case by case in the CRs for releases earlier than the MPR/AMPR changed release.
3. Spec version number handling follows the agreements in clause 2.
4. n41 correction: Remove MPR in bit 2 can be a candidate for further check, others follow the above agreements.

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| n41 | 0 (leftmost bit) | EN-DC contiguous intraband MPR as defined in clause 6.2B.2.1 of 38.101-3 v15.5.0 | - This bit shall be set to 1 by a UE supporting DC\_(n)41AA UE EN-DC |
|  | 1 | EN-DC non-contiguous intraband MPR as defined in clause 6.2B.2.2 of 38.101-3 v15.5.0 | - This bit shall be set to 1 by a UE supporting DC\_41A\_n41A EN-DC |
|  | 2 | EN-DC contiguous and non-contiguous intraband A-MPR as defined in 38.101-3 v16.4.0. If this bit is not set the UE uses Rel-15 or A-MPR for EN-DC contiguous and non-contiguous intraband MPR and A-MPR | -This bit may be set to 1 by a UE supporting DC\_(n)41AA or DC\_41A\_n41A EN-DC |

1. The bits related to form factor FWA: Current structure is kept.
2. FFS if some general clarification is necessary to be added in spec to show that value 0 means the old requirements are supported by UE.

# References

R4-2509810 Discussion on ModifiedMPR-Behavior and spec Xiaomi

R4-2509898 (NR\_newRAT-Core) R16 correction on modifiedMPR-Behaviour OPPO

R4-2509899 (NR\_newRAT-Core) R17 correction on modifiedMPR-Behaviour OPPO

R4-2509900 (NR\_newRAT-Core) R18 correction on modifiedMPR-Behaviour OPPO

R4-2509901 (NR\_newRAT-Core) R19 correction on modifiedMPR-Behaviour OPPO

R4-2509902 (NR\_newRAT-Core) R16 correction on modifiedMPR-Behaviour (refer to latest spec version) OPPO

R4-2509903 (NR\_newRAT-Core) R17 correction on modifiedMPR-Behaviour (refer to latest spec version) OPPO

R4-2509904 (NR\_newRAT-Core) R18 correction on modifiedMPR-Behaviour (refer to latest spec version) OPPO

R4-2509905 (NR\_newRAT-Core) R19 correction on modifiedMPR-Behaviour (refer to latest spec version) OPPO

R4-2509906 R16 discussion on Modified MPR behaviour OPPO

R4-2510282 Discussion on Modified MPR Behavior vivo

R4-2510283 Draft CR 38.101-1 R19 cleanup for ModifiedMPR table vivo

R4-2510284 Draft CR 38.101-1 R18 cleanup for ModifiedMPR table vivo

R4-2510319 Discussion on ModifiedMPR-Behavior updates MediaTek Korea Inc.

R4-2510369 Discussion on modifiedMPR Nokia

R4-2510820 Discussion on how to capture the modifiedMPR-behaviour for n1 NTT DOCOMO, INC., KDDI

R4-2510928 Considerations on ModifiedMPR-Behaviour ZTE Corporation,Sanechips

R4-2510954 Discussion on requirements for ModifiedMPR-Behaviour [Modified\_MPR] Ericsson

R4-2510955 CR to 38.101-1 Rel-16. To add indication of modified MPR behavior [Indicate\_NS\_05\_NS\_05U, Modified\_MPR] Ericsson, Samsung

R4-2511423 (TEI18) Corrections for ModifiedMPR Table [Modified\_MPR] Huawei, HiSilicon

R4-2511424 (TEI19) Corrections for ModifiedMPR Table [Modified\_MPR] Huawei, HiSilicon