**3GPP TSG RAN WG1 #118 R1-2407286**

**Maastricht, NL, August 19th - 23rd, 2024**

**Source: Moderator (Qualcomm)**

**Title:** **Summary of discussion on the exclusion of the sync raster points of 3MHz for Table 13-1**

**Agenda Item: 8.1**

**Document for:** **Discussion and Decision**

# Introduction

This document is a summary of discussions on the exclusion of the sync raster points of 3MHz for Table 13-1, as provided in [1]. Changes proposed in the CR are copied to Appendix directly for easy discussions.

# Discussion

In clause 13, Table 13-1 is not used for UEs with sync raster points with less than 5MHz. Currently, only the SSB located at the sync raster point for 20PRB transmission bandwidth with 5MHz channel bandwidth is excluded for Table 13-1, which corresponds to NOTE 12 of Table 5.4.3.3-1 in [8-1, TS 38.101-1]. However, the SSB located at the sync raster points for 3MHz is not excluded for Table 13-1 yet.

This draft CR aims to correct this error as shown below.

|  |
| --- |
| <omitted text>In Table 13-0, configurations with index 0 to 9 are applicable when an associated SS/PBCH block is located according to Table 5.4.3.3-2 in [8-1, TS 38.101-1], configurations with index 10 to 11 are applicable when an associated SS/PBCH block is located according to NOTE 12 of Table 5.4.3.3-1 in [8-1, TS 38.101-1], and non-interleaved CCE-to-REG mapping applies for configurations with index 6 to 9. In Table 13-1, the associated SS/PBCH block is not located according to Table 5.4.3.3-2 and NOTE 12 of Table 5.4.3.3-1 in [8-1, TS 38.101-1].<omitted text> |

**Moderator Proposal 1: Adopt the draft CR in R1-2407012.**

Table 1. Company views on Moderator proposal 1

|  |  |  |  |
| --- | --- | --- | --- |
| **Company Name** |  | **Support (Yes/No)** | **Comments if answer is No or if any update of the CR is needed.** |
| Ericsson |  | See comment | The Table’s title seems to avoid the issue, but if a clarification is to be performed then we think that the preposition “and” should be replaced by “nor”.  |
| Moderator |  |  | To reply Ericsson’s comment, Table 13-1 has ‘or with minimum channel bandwidth 3 MHz and channel bandwidth larger than 3 MHz’. So we need clarification to exclude sync raster points for less than 5MHz.If change ‘and’ to ‘nor’, it does not make difference per my understanding. But if ‘nor’, we need to saythe associated SS/PBCH block is not located according to Table 5.4.3.3-2 nor located according to NOTE 12 of Table 5.4.3.3-1 in [8-1, TS 38.101-1]. |
| Huawei, HiSilicon |  | No | Thank you for the CR. But the change is unnecessary for the following reasons,* The table 5.4.3.3-2 in TS 38.101-1 is only applicable to 3MHz channel BW according to its title “Table 5.4.3.3-2: Applicable SS raster entries per operating band for 3 MHz channel bandwidth”, while the table 5.4.3.3.-1 in TS 38.101-1 is dedicated to channel BW larger than 3MHz.
* The table 13-1 in TS 38.213 is only applicable to channel BW larger than 3MHz according to its title “Table 13-1: Set of resource blocks and slot symbols of CORESET for Type0-PDCCH search space set when {SS/PBCH block, PDCCH} SCS is {15, 15} kHz for frequency bands with minimum channel bandwidth 5 MHz or 10 MHz or with minimum channel bandwidth 3 MHz and channel bandwidth larger than 3 MHz”
* As a result, there is no overlap between the concerned table 5.4.3.3-2 and the concerned table 13-1 in current specs, i.e. a UE following the table 13-1 have already not allowed to apply the concerned table 5.4.3.3-2.

In shorts, the current specs are clear and clean enough. |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Proposal for online discussion

**Moderator Proposal 1:**

**Down select Alt1 or Alt2**

**Alt1: Adopt the draft CR in R1-2407012.**

**Alt2: change the TP to ‘the associated SS/PBCH block is not located according to Table 5.4.3.3-2 nor located according to NOTE 12 of Table 5.4.3.3-1 in [8-1, TS 38.101-1].’**

# Conclusion

TBD.

# Reference

1. [R1-2407012](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_118/Docs/R1-2407012.zip) Draft CR on the exclusion of the sync raster points of 3MHz for Table 13-1 Qualcomm Incorporated, 3GPP TS RAN1 #118, August. 2024.

# Appendix

Draft CR in [R1-2407012](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_118/Docs/R1-2407012.zip)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8.1 Random access preamble\*\*\* Unchanged text omitted \*\*\*Within a time period, for set(s) of $N\_{preamble}^{rep}$ valid PRACH occasions for a PRACH transmission with $N\_{preamble}^{rep}$ preamble repetitions - the first valid PRACH occasion of the first set is the first valid PRACH occasion - the first valid PRACH occasion of subsequent sets, if any, is determined according to an ordering of valid PRACH occasions - first, in increasing order of frequency resource indexes for frequency multiplexed PRACH occasions- second, in increasing order of time resource indexes for time multiplexed PRACH occasions where, for each frequency resource index for frequency multiplexed PRACH occasions- the first valid PRACH occasion of the first set is the first valid PRACH occasion - the first valid PRACH occasion of subsequent sets, if any, - is after *msg1-RepetitionTimeOffsetROGroup* consecutive valid PRACH occasions in time from the first valid PRACH occasion of the previous set, where each PRACH occasion is associated with same SS/PBCH block index(es) and each SS/PBCH block index is associated with same preambles, if *msg1-RepetitionTimeOffsetROGroup* is provided - is after the PRACH occasions for the previous set, if *msg1-RepetitionTimeOffsetROGroup* is not providedFor a PRACH transmission with preamble repetitions in CFRA procedure, *msg1-RepetitionTimeOffsetROGroup* is determined by the *FeatureCombinationPreambles* indicating *msg1-Repetitions* with same value as *msg1-RepetitionNum* provided by *RACH-ConfigDedicated*.For a PRACH transmission triggered upon request by higher layers, a value of *ra-OccasionList* [12, TS 38.331], if *csirs-ResourceList* is provided, indicates a list of PRACH occasions for the PRACH transmission where the PRACH occasions are associated with the selected CSI-RS index indicated by *csi-RS*. The indexing of the PRACH occasions indicated by *ra-OccasionList* is reset per association pattern period.Table 8.1-1: Mapping between PRACH configuration period and SS/PBCH block to PRACH occasion association period

|  |  |
| --- | --- |
| PRACH configuration period (msec) | Association period (number of PRACH configuration periods) |
| 10 | {1, 2, 4, 8, 16} |
| 20 | {1, 2, 4, 8} |
| 40 | {1, 2, 4} |
| 80 | {1, 2} |
| 160 | {1} |

\*\*\* Unchanged text omitted \*\*\* |