**3GPP TSG RAN WG2 Meeting #111-e R2-200xxxx  
E-Conference, 17th August – 28th August 2020**

**Agenda item: 6.1.2**

**Source: Nokia, Nokia Shanghai Bell**

**Title: Summary of [AT111-e][016][NR16] UE cap TRS bandwidth (Nokia)**

**Document for: Discussion and Decision**

1. Introduction

This is a summary of below offline discussion:

TEI16

TRS bandwidth

* [AT111-e][016][NR16] UE cap TRS bandwidth (Nokia)

Scope: Treat R2-2007498, R2-2007499, R2-2008089, R2-2008090 (proponents to drive)

Deadlines: Short NR UE cap

2. Discussions

## 2.0 Contact list of delegates

To make it easier to find the correct contact delegate in each company for potential follow-up questions, the rapporteur encourages the delegates who provide input to provide their contact information in this table:

|  |  |
| --- | --- |
| Company | Delegate contact |
| Nokia, Nokia Shanghai Bell | Amaanat Ali (amaanat.ali@nokia.com) |
| Huawei, HiSilicon | Yang Zhao (zhaoyang@huawei.com) |
| Ericsson | Mattias Bergström (Mattias.a.bergstrom@ericsson.com) |
| Qualcomm Incorporated | Masato Kitazoe (mkitazoe [at] qti.qualcomm.com |
| Apple | Naveen Palle (naveen.palle@apple.com) |
| OPPO | Qianxi Lu (qianxi.lu@oppo.com) |
| CATT | Erlin Zeng (erlin.zeng@catt.cn) |
| Intel | Youn Heo (youn.hyoung.heo@intel.com) |
| ZTE | Yu Liu(liu.yu3@zte.com.cn) |

## 2.1 Discussion on [R2-2007498](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007498.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007498.zip) and [R2-2007499](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007499.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007499.zip)

[R2-2007498](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007498.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007498.zip) Capability signalling for limited TRS bandwidth for 10 MHz bandwidth with 15 kHz SCS Nokia, Nokia Shanghai Bell CR Rel-16 38.306 16.1.0 0381 - B TEI16

[R2-2007499](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007499.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007499.zip) Capability signalling for limited TRS bandwidth for 10 MHz bandwidth with 15 kHz SCS Nokia, Nokia Shanghai Bell CR Rel-16 38.331 16.1.0 1848 - B TEI16

|  |  |
| --- | --- |
| Company | Comments |
| Nokia, Nokia Shanghai Bell | Proponent |
| Huawei, HiSilicon | There is no big difference between the two sets of CRs, and we slightly prefer our version as this has already been discussed with other cosigners. To be more specific, we prefer the naming in our version as this looks more generic, while for choice or enumeration, we don’t have strong view and are open to hear others.  [Nokia] We are okay but please see detailed comments below. |
| Ericsson | To have a capability bit saying that the UE supports "all" of something is not suitable since in case more (not yet anticipated) options are added in the future, "all" would no longer be true. Hence we think the other CRs are more suitable.  [Nokia] We are okay but please see detailed comments below. |
| Qualcomm Incorporated | The applicable channel BW, BWP size and SCS are better captured in R2-2008089/8090. |
| Apple | Same view as Qualcomm |
| OPPO | Intention of the two alternatives are roughly the same. Considering the details like xDD/FRx setting, and code-points defintion, we tend to support the latter one. |
| CATT | Same view as oppo. |
| Intel | There is not much difference between two CRs. |
| ZTE | Our comments are as below. |

## 2.2 Discussion on [R2-2008089](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2008089.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2008089.zip) and [R2-2008090](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2008090.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2008090.zip)

The following documents are relevant for the discussion:

[R2-2008089](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2008089.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2008089.zip) Support of new newly defined TRS bandwidth sizes Huawei, HiSilicon, Ericsson, Vodafone CR Rel-16 38.331 16.1.0 1910 1 F TEI16 [R2-2007803](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007803.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007803.zip) Late

[R2-2008090](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2008090.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2008090.zip) Support of new newly defined TRS bandwidth sizes Huawei, HiSilicon, Ericsson, Vodafone CR Rel-16 38.306 16.1.0 0391 1 F TEI16 [R2-2007804](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007804.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007804.zip) Late

|  |  |
| --- | --- |
| Company | Comments |
| Nokia, Nokia Shanghai Bell | Intention looks fine. There are few differences e.g. wording compared to Nokia CR and also choice of how the fields are set in the xDD and FRx differentiation. Then the choice of enumeration is also aligned to each proponent’s 306 changes. We would prefer our version or request to update as per our CR and we can co-sign. |
| Huawei, HiSilicon | Proponents and we are happy to add co-signers, in addition to what we explained above, we actually see for 306 our version is more accurate on when to apply this capability. Surely open to hear any specific wording improvement.  [Nokia] Thanks we are ready to co-sign but firstly, under the condition that the TS 38.306 columns for xDD and FRx differentiation are aligned to our version as this is technically correct rather than having N/A in both places as in your CR. Secondly, the naming of the capability should consider adding 15kHz as this is also the way to clearly capture the capability. For the other parts, things are fairly common and okay for us. |
| Ericsson | Supportive.  [Nokia] Thanks we are ready to co-sign but firstly, under the condition that the TS 38.306 columns for xDD and FRx differentiation are aligned to our version as this is technically correct rather than having N/A in both places as in your CR. Secondly, the naming of the capability should consider adding 15kHz as this is also the way to clearly capture the capability. For the other parts, things are fairly common and okay for us. |
| Qualcomm Incorporated | We support the CRs. |
| Apple | Agree to these CRs. |
| OPPO | Support |
| CATT | We support these two. the reaons are similar as mentioned by some other companies. |
| Intel | We are ok to use these CRs as baseline. But, we agree with Nokia about the column for xDD and FRx. Instead of N/A, the applicability should be described in the column. |
| ZTE | Same view as Inter.  In addition,we agree with Nokia to use the field name adding 15kHz as it is more clear. |

# 3. Conclusion

Summary to be provided at end of the discussion.

# References

TEI16

TRS bandwidth

* [AT111-e][016][NR16] UE cap TRS bandwidth (Nokia)

Scope: Treat R2-2007498, R2-2007499, R2-2008089, R2-2008090 (proponents to drive)

Deadlines: Short NR UE cap

[R2-2007498](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007498.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007498.zip) Capability signalling for limited TRS bandwidth for 10 MHz bandwidth with 15 kHz SCS Nokia, Nokia Shanghai Bell CR Rel-16 38.306 16.1.0 0381 - B TEI16

[R2-2007499](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007499.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007499.zip) Capability signalling for limited TRS bandwidth for 10 MHz bandwidth with 15 kHz SCS Nokia, Nokia Shanghai Bell CR Rel-16 38.331 16.1.0 1848 - B TEI16

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[R2-2007803](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007803.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007803.zip) Support of flexible TRS bandwidth sizes Huawei, HiSilicon CR Rel-16 38.331 16.1.0 1910 - F TEI16 Revised

[R2-2008089](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2008089.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2008089.zip) Support of new newly defined TRS bandwidth sizes Huawei, HiSilicon, Ericsson, Vodafone CR Rel-16 38.331 16.1.0 1910 1 F TEI16 [R2-2007803](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007803.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007803.zip) Late

[R2-2007804](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007804.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007804.zip) Support of flexible TRS bandwidth sizes Huawei, HiSilicon CR Rel-16 38.306 16.1.0 0391 - F TEI16 Revised

[R2-2008090](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2008090.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2008090.zip) Support of new newly defined TRS bandwidth sizes Huawei, HiSilicon, Ericsson, Vodafone CR Rel-16 38.306 16.1.0 0391 1 F TEI16 [R2-2007804](file:///D:\\Documents\\3GPP\\tsg_ran\\WG2\\TSGR2_111-e\\Docs\\R2-2007804.zip" \o "D:Documents3GPPtsg_ranWG2TSGR2_111-eDocsR2-2007804.zip) Late