**3GPP TSG-RAN WG2 Meeting #118 Electronic *R2-2205395***

**Elbonia, 9 – 20 May 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.306** | **CR** | **0714** | **rev** | **-** | **Current version:** | **17.0.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network | **x** | Core Network |  |

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| ***Title:***  | Distinguishing support of band n77 restrictions in Canada |
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| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, Ericsson, Huawei, Telus, Bell Canada |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2022-04-25 |
|  |  |  |  |  |
| ***Category:*** | **C** |  | ***Release:*** | 17 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | RAN2 has been tasked by RAN to provide means to distinguish UEs that have only been certified for the currently used part of band n77 definition in Canada (i.e. only 3450 - 3650 MHz range) and those that would be certified for the part of band n77 in Canada that will be available later (i.e. support of also 3650-3980 MHz). As per RAN#95e decision, new UE capability signalling should be added for this. |
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| ***Summary of change:*** | 1. Added a per-UE capability for support of NR band n77 restrictions in Canada.

Note that this optional capability has no impact to n77-capable UEs certified outside of Canada and such UEs are not be required to indicate this bit. But n77-capable UEs that wish to use the 3650-3890 MHz part of n77 frequency range in Canada need to indicate this bit.**Implementation of this CR by a Release 15 or Release 16 UE will not cause compatibility issues.****Impact analysis**Impacted functionality: Band n77 capability signalling.Inter-operability: 1. If the network is implemented according to the CR and the UE is not, there are no inter-operability issues since the network considers UE doesn't support the n77 extension in Canada and will not configure UE with 3650-3890 MHz frequency range.
2. If the UE is implemented according to the CR and the network is not, there are no inter-operability issues since the network will not comprehend the support for the n77 extension in Canada and will not configure UE with 3650-3890 MHz frequency range.
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| ***Consequences if not approved:*** | It is not possible for network to distinguish which version of band n77 UE is certified against in Canada. |
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| ***Clauses affected:*** | 4.2.7.11 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **x** |  |  Other core specifications  | TS36.306 CR1847, TS36.331 CR4799, TS38.331 CR3078 |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

*First Modified Subclause*

#### 4.2.7.11 Other PHY parameters

| Definitions for parameters | Per | M | FDD-TDDDIFF | FR1-FR2DIFF |
| --- | --- | --- | --- | --- |
| ***appliedFreqBandListFilter***Mirrors the *FreqBandList* that the NW provided in the capability enquiry, if any. The UE filtered the band combinations in the *supportedBandCombinationList* in accordance with this *appliedFreqBandListFilter*. | UE | No | No | No |
| ***downlinkSetEUTRA***Indicates the features that the UE supports on the DL carriers corresponding to one EUTRA band entry in a band combination by FeatureSetEUTRA-DownlinkId. The FeatureSetEUTRA-DownlinkId = 0 means that the UE does not support a EUTRA DL carrier in this band of a band combination. | Band | N/A | N/A | N/A |
| ***downlinkSetNR***Indicates the features that the UE supports on the DL carriers corresponding to one NR band entry in a band combination by FeatureSetDownlinkId. The FeatureSetDownlinkId = 0 means that the UE does not support a DL carrier in this band of a band combination. A fallback per band feature set resulting from the reported DL feature set that has fallback per CC feature set is not signalled but the UE shall support it. | Band | N/A | N/A | N/A |
| ***extendedBand-n77-r16***This field is only applicable for UEs that indicate support for band n77. If present, the UE supports the restriction to 3450 - 3550 MHz and 3700 - 3980 MHz ranges of band n77 in the USA as specified in Note 12 of Table 5.2-1 in TS 38.101-1 [2]. If absent, the UE supports only restriction to the 3700 - 3980 MHz range of band n77 in the USA. A UE that indicates this field shall also support NS value 55 as specified in TS 38.101-1 [2]. | UE | No | No | No |
| ***extendedBand-n77-Canada***This field defines whether the UE supports the restriction to frequency ranges of 3450 - 3650 MHz and 3650 - 3980 MHz of band n77 in Canada. If absent, the UE may only support the frequency range 3450 - 3650 MHz for band n77 in Canada. UE only indicates this capability if it indicates support for the NR band n77. A UE that indicates this field shall support NS value 57 as specified in TS 38.101-1 [85]. | UE | No | No | No |
| ***featureSetCombinations***Pools of feature sets that the UE supports on the NR or MR-DC band combinations. | UE | N/A | No | No |
| ***featureSets***Pools of downlink and uplink features sets as well as a pool of FeatureSetCombination elements. A FeatureSetCombination refers to the IDs of the feature set(s) that the UE supports in that FeatureSetCombination. The BandCombination entries in the BandCombinationList then indicate the ID of the FeatureSetCombination that the UE supports for that band combination. | UE | N/A | No | No |
| ***naics-Capability-List***Indicates that UE in MR-DC supports NAICS as defined in TS 36.331 [17]. | UE | No | No | No |
| ***receivedFilters***Contains all filters requested with UE-CapabilityRequestFilterNR from version 15.6.0 onwards. | UE | No | No | No |
| ***supportedBandCombinationList***Defines the supported NR and/or MR-DC band combinations by the UE. For each band combination the UE identifies the associated feature set combination by featureSetCombinations index referring to featureSetCombination. A fallback band combination resulting from the reported CA and MR-DC band combination is not signalled but the UE shall support it. For intra-band non-contiguous CA band combinations, the UE only includes one band combination, and exclude the others for which the presence of uplink CA bandwidth class in the band combination entry is different. One band combination entry can also indicate support of any other possible permutations in the presence of uplink CA bandwidth class where a paired downlink CA bandwidth class is the same or where the number of UL CCs is smaller than the one of paired DL CCs expressed by the CA bandwidth class, as specified in TS 36.306 [15]. For these band combinations not included in the capability, the supported feature set is the same as the ones for the band combination included in the UE capability. | UE | Yes | No | No |
| ***supportedBandCombinationListNEDC-Only***Defines the supported NE-DC only type of band combinations by the UE. | UE | No | No | No |
| ***supportedBandCombinationList-UplinkTxSwitch-r16***Defines the NR inter-band UL CA, SUL and/or EN-DC band combinations where UE supports dynamic UL Tx switching. UE only includes this field if requested by the network. All fallback band combinations resulting from the reported band combination, which include at least one band pair supporting dynamic UL Tx switching as indicated in *ULTxSwitchingBandPair*, shall be supported by the UE. | UE | No | No | No |
| ***supportedBandListNR***Includes the supported NR bands as defined in TS 38.101-1 [2] and TS 38.101-2 [3]. | UE | Yes | No | No |
| ***uplinkSetEUTRA***Indicates the features that the UE supports on the UL carriers corresponding to one EUTRA band entry in a band combination by FeatureSetEUTRA-UplinkId. The FeatureSetUplinkId = 0 means that the UE does not support a UL carrier in this band of a band combination. | Band | N/A | N/A | N/A |
| ***uplinkSetNR***Indicates the features that the UE supports on the UL carriers corresponding to one NR band entry in a band combination by FeatureSetUplinkId. The FeatureSetUplinkId = 0 means that the UE does not support a UL carrier in this band of a band combination. A fallback per band feature set resulting from the reported UL feature set that has fallback per CC feature set is not signalled but the UE shall support it. | Band | N/A | N/A | N/A |

*End of Changes*