**3GPP TSG-RAN WG2 Meeting #115 Electronic DRAFT R2-210xxxx**

**Elbonia, 16 – 27 August 2021**

**Title: [DRAFT]** LS on inter-operability of band n77 extension in US

**Response to:** -

**Release:** Release 16

**Work Item:** NR\_RF\_FR1-Core

**Source:** Nokia [TSG RAN WG2]

**To:** TSG RAN WG4

**Cc:** TSG RAN

**Contact Person:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:** R2-210xxx (36.306), R2-210xxx (36.331), R2-210xxx (36.306), R2-210xxx (38.331)

**1. Overall Description:**

As RAN#92e requested, RAN2 has discussed the topic of ensuring network can properly deal with legacy n77 UEs that do not support 3.45-3.55 GHz operation in US.

RAN2 has concluded that signalling is needed to distinguish which UEs support the n77 extensions in the US from Rel-16 onwards (with early implementation allowed from Rel-15 onwards). Two solutions have been discussed:

1. Defining a new per UE capability bit (for both LTE and NR RRC) to distinguish the UE support (for both EN-DC and NR CA/DC cases) for the band n77 extension in the US (which also assumes that the band n77 extension is defined in RAN4 specification [TS38.101-1](https://www.3gpp.org/DynaReport/38101-1.htm)). Additionally to prevent legacy UEs supporting n77 from camping on the DoD bands a new NS value is a possible option, although this option does not prevent legacy UEs (that do not conform to the current FCC restrictions in operating n77 in the US) from camping on n77.
2. Defining a new frequency band for n77, including both the 3450-3550 MHz and 3700-3890 MHz frequency ranges.

RAN2 has endorsed CRs for the solution A. and if RAN4 views NS value option as useful, the new NS value needs to be defined by RAN4. Solution B has no RAN2 signalling impact, but this way of addressing adds burden on the UE and the NW in UE capability exchange procedures and needs modification by RAN4.

RAN2 kindly asks RAN4 to take the RAN2 feedback into account and decide the solution.

Finally, RAN2 would like to understand if RAN4 plans to define similar changes (for any band) in the future, and would note that how to accommodate such changes is not clear and would prefer not to change existing frequency band definitions if at all possible. But in case it is necessary, RAN2 should be informed much earlier so it's possible to discuss best way to distinguish such cases.

**2. Actions:**

**To RAN4 group.**

**ACTION:** RAN2 respectfully asks RAN4 to take the RAN2 feedback into account for band n77 (applicable for the 3450-3550 MHz frequency range) and decide the solution.

**3. Date of Next TSG-RAN WG2 Meeting:**

3GPP RAN2#116-e from 2021-11-01 to 2021-11-12 Electronic Meeting