**3GPP TSG-RAN4 Meeting #98-e *DRAFT* R4-2103406**

**Online, , 25th Jan 2020 – 5th Feb 2021**

Title: Reply LS on technical feasibilities for frequency arrangements for IMT in 470 – 703 MHz band

Response to: LS (APT\_LS200918, RP-202934, R4-2016598) on Frequency arrangements for IMT in the band 470-703MHz from APT Wireless Group

Release: Rel-17

Work Item: FS\_NR\_600MHz\_ext

Source: 3GPP RAN WG4

To: Asia-Pacific Telecommunity Wireless Group (AWG)

Cc: 3GPP TSG RAN

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

Attachments: -

**1. Overall Description:**

3GPP RAN WG4 would like to thank APT Wireless Group for the LS in RP-202934 / R4-2016598.

In response to a request from APT Wireless Group on 3GPP RAN WG4 feedback on technical feasibility of B1 and B2 frequency arrangements in 470 – 703 MHz band, including views on suggested sizes of the second duplexer from a feasibility and cost-efficient perspective, 3GPP RAN WG4 would like to inform on the progress of the discussion during RAN4#98-e meeting.

During the first 3GPP RAN WG4 meeting treating study item on extended 600MHz NR band, multiple companies have submitted analyses on technical feasibilities of frequency arrangements and duplexer options in 612-703 MHz frequency range. Those analyses were considering both option B1 and B2, as well as potential alternatives based on option B2.

Regarding the proposed band plan, RAN4#98-e has developed the following suggestions to progress with technical discussions in the study item:

* Option B1 or B2 is further studied as baseline to respond to the request of APT/AWG.
* Other options can be studied as well, if such options are considered to better address the device performance, cost and ecosystem issues, etc.
* Companies are encouraged to study if it is beneficial to leverage the band n71 ecosystem with these options.

Due to early stage of the discussion, further 3GPP RAN WG4 discussion will be needed to reach consensus on the proposed band plan, duplex arrangement, filtering capabilities, etc.

Below we provide more details on the progress of the extended 600MHz NR study discussions, as background information.

1. The following Text Proposal was agreed for the Technical Report:

* R4-2103267 Regulatory aspects for the 600MHz range in APT region

2. The following Way Forward documents were discussed during the meeting, but consensus was not achieved and those were Noted during the meeting:

* R4-2103266 Way forward on regulatory requirements for protection of other services identified for Region 3 and coexistence with Band 28/n28
* R4-2103268 Way forward on bands plans for further study and duplex filter options

3. Based on study item objectives, the following open issues remain to be resolved:

* Regulatory study of the frequency range around 600MHz in Region 3
* Co-existence study for the frequency range of 612-652/663-703 MHz such as with DTV (if needed)
* Study potential frequency arrangements and conclude the possible implications (such as insertion loss, transmitter and receiver characteristics for both BS and UE, system limitations such as channel bandwidths, etc.) of different duplex filter implementations.
* Consider options B1 and B2 from AWG LS, but other options are not precluded.
* Answer the request from AWG regarding the technical feasibility of option B1 and B2, respectively. Further options are not precluded and may be included in LS to AWG.

RAN4 will continue technical discussion and plans to inform APT Wireless Group on its final conclusion by the September 2021, as requested.

**2. Actions:**

**To APT Wireless Group:**

**ACTION:** RAN WG4 asks AWG to take the above information into account.

**3. Date of Next RAN WG4 Meetings:**

RAN WG4 Meeting #98-bis-e 12th – 20th April 2021 Online meeting

RAN WG4 Meeting #99-e 19th – 27th May 2021 Online meeting