

final
Variant of RAN-R18-WS-eMBB-CHARTER COMMUNICATIONS Version 0.0.3
RAN

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Table 1:

3GPP TSG RAN Rel-18 workshop	RWS-210516
Electronic Meeting, June 28 - July 2, 2021	
Agenda Item: 4.1	
Source:	Charter Communications
Title:	Email discussion summary for [RAN-R18-WS-eMBB-Charter]

2 Overview

Q&A for the following eMBB contributions:

RWS-210209 Coexistence between NR and Incumbents in Rel-18

RWS-210210 Improved Utilization of Fragmented Spectrum Holdings

3 Round 1 Questions

Comments and questions on RWS-210209

Feedback Form 1: RWS-210209 Coexistence between NR and Incumbents

1 – Intel

1) Are there any reliable mechanisms for gNB to learn/identify the parameters of incumbents? 2) Incumbent systems have prioritized channel usage and typically there are clear regulatory rules. Even if 3GPP introduces mechanisms for enhanced channel sharing between NR and incumbent systems, would it be allowed to relax the constraints (e.g. less power reduction)?

2 – Huawei Tech.(UK) Co.. Ltd

Is there any characteristic for the Incumbents signalling from the perspective of time domain, frequency domain or waveform? Aren't the existing Rel15 RB-level, symbol-level rate matching mechanism sufficient for channel sharing between NR and incumbent systems?

Feedback Form 2: RWS-210210 Improved Utilization of Fragmented Spectrum Holdings

<p>1 – MediaTek Inc.</p> <p>Thanks for the quality contribution. Overhead is indeed an issue for aggregating low-band carriers. For reducing the control overhead, the enhancement of 1-DCI scheduling multiple carriers can be useful. And, in general, cross-carrier enhancements will be useful for combining the coverage benefit of a low-band carrier and the wider spectrum benefit of a higher-band carrier. There suggest two cross-carrier enhancements in our contribution, RWS-210094, and any question/comment is welcomed.</p>
<p>2 – CATT</p> <p>We agree with the motivation and agree with the study of single cell with non-contiguous frequency resource. We have similar proposal in RWS- 210402. One question for clarification is what "Baseline for enhancements is CA of the non-contiguous resources" means. To our understanding, it does not mean that the enhancements are based on CA framework given that the enhancement is to support single cell with non-contiguous frequency resource. Is it the correct understanding?</p>
<p>3 – Intel</p> <p>Which impacts on UE and BS RF requirements are expected?</p>
<p>4 – Huawei Tech.(UK) Co.. Ltd</p> <p>We share similar motivation and scope. Utilizing the fragmented spectrum as a single serving cell can reduce overhead and provide more efficient cell management, including the latency and procedure simplification, as discussed in our paper RWS-210441.</p>
<p>5 – Intel</p> <p>Additional question are whether it is supported for a UE to schedule a DL or UL resource on the multiple non-consecutive frequencies of the cell? If yes, is it one or multiple TBs that are scheduled on the multiple non-consecutive frequencies of the cell?</p>

4 Responses to Round 1 Questions

Responses for RWS-210209 (Thanks for the comments!)

Table 2: Responses for RWS-210209

Response to:	Comments

Intel	There are at least two ways for the NR gNB to infer incumbent characteristics. Taking the example of CBRS, one approach is for the SAS/CXM/ESC to provide this information; the details of this approach are out of scope of 3GPP. A second approach is for the gNB to perform individual detection of incumbent radar properties via a form of DFS. What is in the scope of Rel-18 is the coexistence action(s) that a gNB can take once it has this information.
Huawei	Since incumbents have priority in spectrum usage, a NR gNB that exceeds the interference threshold must either back off in power or move to another frequency. In the latter case, existing mechanisms such as rate-matching are clearly not applicable. We instead propose a duty-cycle approach for time-sharing between NR and incumbents.

Responses for RWS-210210 (Thanks for the comments!)

Table 3:

Response to	Comments
MediaTek	Thanks for pointing out your contribution, RWS-21009 seems to be oriented towards lower latency and more efficient CA of a large number of carriers. We see our proposal as a complementary approach that improves efficiency for as few as two non-contiguous spectrum chunks.
CATT	We see a strong alignment with your proposals in RWS-210402. "Baseline for enhancements is CA" means that we want to achieve efficiency gains with single-cell operation over the baseline mechanism which is CA.
Intel	A starting point for RF impacts is the corresponding requirements for non-contiguous wideband transmission mode with intra-carrier guardbands introduced in Rel-16 NR-U.
Huawei	We are supportive of RWS-210441, but would also like to see support for TDD.

5 Round 2 Questions/Comments

Feedback Form 3: RWS-210209

Feedback Form 4: RWS-210210

1 – Intel Corporation (UK) Ltd

Thank you for the responses! Please see our additional questions below

Q1: Whether it is supported for a UE to schedule a DL or UL resource on the multiple non-consecutive frequencies of the cell? If yes, is it one or multiple TBs that are scheduled on the multiple non-consecutive frequencies of the cell?

2 – Charter Communications

Response to Intel: the resource allocation on the non-consecutive frequencies can be both DL and UL. Whether it is one TB or multiple TBs depends on factors such as whether the numerology is the same or not on both frequencies, etc. We should start with the simpler cases first.