**3GPP TSG-RAN WG1 Meeting #107-e *R1-211xxxx***

**e-Meeting, November 11th – 19th, 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **DRAFT CHANGE REQUEST** | | | | | | | | |
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|  | **37.213** | **CR** | **XXX** | **rev** | **-** | **Current version:** | **16.7.0** |  |
|  | | | | | | | | |
| *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:*** | Changes of channel access procedure in TS 37.213 according to MIIT regulation | | | | | | | | | |
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| ***Source to WG:*** | Moderator (Huawei), Lenovo, Nokia, Ericsson, Intel | | | | | | | | | |
| ***Source to TSG:*** | R1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_unlic-Core | | | | |  | ***Date:*** | | | 2021-11-05 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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 e?planations of the above categories can be 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:*** | | The Minstry of Industry and Information Technology (MIIT) in China has already set the final regulatory rules for operating in the 2.4 GHz band and the 5 GHz band. It is observed that the sensing slot duration for semi-static channel access in 3GPP can not meet the requirement of MIIT regulations for operating in such bands in China. | | | | | | | | |
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| ***Summary of change:*** | | Add an optional value of sensing slot duration T*sl* = 16us in section 4.3 to meet the minimum idle channel assessment of at least 16*us* in China when semi-static channel access mode is applied. | | | | | | | | |
| ***T*** | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The channel access procedure defined for the semi-static channel access mode in current specifications does not meet the requirements in China. | | | | | | | | |
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| ***Clauses affected:*** | | 4.3 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS38.212 | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
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| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

4.3 Channel access procedures for semi-static channel occupancy

Channel access procedures based on semi-static channel occupancy as described in this Clause, are intended for environments where the absence of other technologies is guaranteed e.g., by level of regulations, private premises policies, etc. If a gNB provides UE(s) with higher layer parameters *ChannelAccessMode-r16 ='semistatic'* by SIB1 or dedicated configuration, a periodic channel occupancy can be initiated by the gNB every within every two consecutive radio frames, starting from the even indexed radio frame at with a maximum channel occupancy time , where *period* in , is a higher layer parameter provided in *SemiStaticChannelAccessConfig* and *.* For determining a *Channel Occupancy Time* based on semi-static channel access procedures, duration of any transmission gap within is counted in the channel occupancy time.

In the following procedures in this clause, when a gNB or UE performs sensing for evaluating a channel availability, the sensing is performed at least during a sensing slot duration , unless longer sensing duration is required (e.g. by level of regulation), in which case sensing is performed within a duration of . When sensing is performed within a duration of  ,  the channel is considered to be idle if the channel is sensed to be idle for total of at least with at least of sensing occurring in the last time interval in the sensing duration. The corresponding adjustment for performing sensing by a gNB or a UE is described in clauses 4.1.5 and 4.2.3, respectively.

A channel occupancy initiated by a gNB and shared with UE(s) satisfies thefollowing:

- The gNB shall transmit a DL transmission burst starting at the beginning of the channel occupancy time immediately after sensing the channel to be idle for at least a sensing slot duration . If the channel is sensed to be busy, the gNB shall not perform any transmission during the current period.

- The gNB may transmit a DL transmission burst(s) within the channel occupancy time immediately after sensing the channel to be idle for at least a sensing slot duration if the gap between the DL transmission burst(s) and any previous transmission burst is more than .

- The gNB may transmit DL transmission burst(s) after UL transmission burst(s) within the channel occupancy time without sensing the channel if the gap between the DL and UL transmission bursts is at most

- A UE may transmit UL transmission burst(s) after detection of a DL transmission burst(s) within the channel occupancy time as follows:

- If the gap between the UL and DL transmission bursts is at most , the UE may transmit UL transmission burst(s) after a DL transmission burst(s) within the channel occupancy time without sensing the channel.

- If the gap between the UL and DL transmission bursts is more than , the UE may transmit UL transmission burst(s) after a DL transmission burst(s) within the channel occupancy time after sensing the channel to be idle for at least a sensing slot duration within a interval ending immediately before transmission.

- A UE may be indicated by the gNB to transmit UL transmission burst(s) within the channel occupancy time without sensing the channel or after sensing the channel to be idle for at least a sensing slot duration within a interval ending immediately before transmission.

- The gNB and UEs shall not transmit any transmissions in a set of consecutive symbols for a duration of at least before the start of the next period.

If a UE fails to access the channel(s) prior to an intended UL transmission to a gNB, Layer 1 notifies higher layers about the channel access failure.