**3GPP TSG-RAN WG2 Meeting #128R2-2410803**

**Orlando, USA, Nov. 18th – 22nd, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  | **38331** | **CR** | **5189** | **rev** | **1** | **Current version:** | **18.3.0** |  |
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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:***  | Clarification on the unit of offsetThresholdTA-r18 for ATG |
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| ***Source to WG:*** | ZTE Corporation |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_ATG-Core |  | ***Date:*** | 2024-11-04 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-18 |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | In current specification, the configuration *offsetThresholdTA-r18* for ATG TA reporting is in the unit of symbols. However, considering a UE may be configured with multiple BWPs with different subcarrier spacings, it’s unclear how to interpret the configuration since it is unclear which subcarrier spacing should be based on when receives the *offsetThresholdTA-r18* configuration. Based on the discussion in RAN2#128, the following solution is agreed:* When offsetThresholdTA-r18 configuration is received:
* If firstActiveDownlinkBWP-Id is included in the same RRC message:
* UE applies the offsetThresholdTA-r18 based on the SCS of the BWP indicated by firstActiveDownlinkBWP-Id.
* else:
* UE applies the offsetThresholdTA-r18 based on the SCS of current active DL BWP when offsetThresholdTA-r18 is received.

In addition, the applied value of TA offset threshold does not change autonomously upon BWP switching unless offsetThresholdTA-r18 and firstActiveDownlinkBWP-Id are received in the same RRC message. This CR is provided to capture the above solution.  |
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| ***Summary of change:*** | Clarify in the field description that the configuration of *offsetThresholdTA-r18* is based on subcarrier spacing of the BWP indicated by *firstActiveDownlinkBWP-Id* if received in the same RRC message, otherwise, it is based on the subcarrier spacing of the active DL BWP when offsetThresholdTA-r18 is received. And the applied configuration does not change autonomously upon BWP switching unless offsetThresholdTA-r18 and firstActiveDownlinkBWP-Id are received at the same time. **Impact analysis**Impacted 5G architecture options:NR SAImpacted functionality:NR ATG Inter-operability:If the UE is implemented according to this CR but the network is not, or if the network is implemented according to this CR but the UE is not, the network and the UE have different understandings on the value of *offsetThresholdTA-r18* that applied by the UE, this may result in unneccessary TAR MAC CE reporting.  |
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| ***Consequences if not approved:*** | It’s unclear how to interpret the unit of *offsetThresholdTA-r18* when the UE is configured with multiple BWP with different SCSs. |
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| ***Clauses affected:*** | 6.3.2 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***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:*** |  |

*Start of changes*

6.3.2 Radio resource control information elements

*Unchanged Text is omitted*

– *TAR-Config*

The IE *TAR-Config* is used to configure Timing Advance reporting in non-terrestrial networks and ATG network.

***TAR-Config* information element**

-- ASN1START

-- TAG-TAR-CONFIG-START

TAR-Config-r17 ::= SEQUENCE {

 offsetThresholdTA-r17 ENUMERATED {ms0dot5, ms1, ms2, ms3, ms4, ms5, ms6 ,ms7, ms8, ms9, ms10, ms11, ms12,

 ms13, ms14, ms15, spare13, spare12, spare11, spare10, spare9, spare8, spare7,

 spare6, spare5, spare4, spare3, spare2, spare1} OPTIONAL, -- Need R

 timingAdvanceSR-r17 ENUMERATED {enabled} OPTIONAL, -- Need R

 ...

}

TAR-Config-r18 ::= SEQUENCE {

 offsetThresholdTA-r18 INTEGER (1..56) OPTIONAL, -- Need R

 timingAdvanceSR-r18 ENUMERATED {enabled} OPTIONAL, -- Need R

 ...

}

-- TAG-TAR-CONFIG-STOP

-- ASN1STOP

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| ***TAR-Config* field descriptions** |
| ***offsetThresholdTA***Offset for TA reporting as specified in TS 38.321 [3]. Network only configures this parameter for MCG. Network only configures *offsetThresholdTA-r18* for ATG, which is in unit of symbols based on the subcarrier spacing of the BWP indicated by *firstActiveDownlinkBWP-Id* if received in the same RRC message, otherwise, it is based on the subcarrier spacing of the active DL BWP of the PCell when *offsetThresholdTA-r18* is received. The value of TA offset threshold does not change with BWP switching unless this field and *firstActiveDownlinkBWP-Id* are received in the same RRC message.  |
| ***timingAdvanceSR***Used to configure whether a Timing Advance report may trigger a Scheduling Request as specified in TS 38.321 [3]. |

*End of changes*