**3GPP TSG-RAN WG4 Meeting #112 *R4-2413934***

**Maastricht, The Netherlands, August 19-23, 2024**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1**  | **Current version:** |  |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | CR to 38.133 on Gradual timing adjustment |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_ext\_to\_71GHz-Core |  | ***Date:*** | 2024-08-22 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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)* |
|  |  |
| ***Reason for change:*** | Editorial change. |
|  |  |
| ***Summary of change:*** | Editorial change of ‘upling’ to ‘uplink’. |
|  |  |
| ***Consequences if not approved:*** | 3GPP specification will contain a spelling mistake. |
|  |  |
| ***Clauses affected:*** |  |
|  |  |
|  | **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 ...  |
|  |  |
| ***Other comments:*** | This maintenance CR was endorsed at RAN4#111 as R4-2409057, but not approved since the corresponding type A CR was missing. |
|  |  |
| ***This CR's revision history:*** | Rev 1: Workitem code corrected to the correct one, NR\_ext\_to\_71GHz-Core.The original CR which introduced the editorial error is R4-2211248, Big CR on extending NR to 71GHz for TS38.133. |

#### ===== start of changes =====

#### 7.1.2.1 Gradual timing adjustment

Requirements in this section shall apply regardless of whether the reference cell is on a carrier frequency subject to CCA or not.

When the transmission timing error between the UE and the reference timing exceeds ±Te then the UE shall adjust the timing such that timing error is within ±Te. The reference timing shall be  before the downlink timing of the reference cell. All adjustments made to the UE uplink timing shall follow these rules:

1) The maximum amount of the magnitude of the timing change in one adjustment shall be Tq.

2) The minimum aggregate adjustment rate shall be Tp per second.

3) The maximum aggregate adjustment rate shall be Tq per 200 ms for SCS of UL signals smaller or equal to 120 kHz and 100 ms for SCS of uplink signals larger or equal to 480 kHz.

 where the maximum autonomous time adjustment step Tq and the aggregate adjustment rate Tp are specified in Table 7.1.2.1-1.

#### ===== end of changes =====