**3GPP TSG-SA WG4 #121 Meeting  *S4-221263***

**Toulouse, France, 14 – 18 November, 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.131** | **CR** | **0085** | **rev** | **1** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Changing RLR requirement at minimum volume in handset mode | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung Electronics, T-Mobile US | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18 | | | | |  | ***Date:*** | | | 2022-11-02 |
|  |  | | | |  | |  | | |  |
| ***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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | UEs with a full-display that have the receiver hole at the top edge of the device need reconsideration for minimum RLR specification for handset mode. When UE is mounted on HATS, the artificial ear fails to completely cover it, so the sound leakage to the outside end up increasing. In order to meet the current requirement for the minimum RLR, the gain of the volume has to increase, resulting in the minimum volume being too loud to the end user. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Proposal to change the RLR of the minimum volume in handset mode from “that shall not be ≥ (equal or quieter than) 18dB” to “RLR that shall not be ≥ (equal or quieter than) 24dB” from Release 18 specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The actual sound at minimum volume level will not be quiet enough for full-display UE users. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.2, 6.2.2, 7.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 CR's revision history:*** | | Based on the disucssiond in Audio SWG during SA4#121, it was agreed to provide two different level of minimum RLR values. | | | | | | | | |

### 5.2.2 Connections with handset UE

The nominal values of SLR/RLR to the POI shall be:

SLR = 8 ± 3 dB;

RLR = 2 ± 3 dB.

Where a user-controlled receiving volume control is provided, the RLR shall meet the nominal value for at least one setting of the control. When the control is set to maximum, the RLR shall not be ≤ (equal or louder than) ‑13 dB.

With the volume control set to the minimum position the RLR shall not be ≥ (equal or quieter than) 24 dB and should not be ≥ (equal or quieter than) 18 dB.

Compliance shall be checked by the relevant tests described in TS 26.132.



### 6.2.2 Connections with handset UE

The nominal values of SLR/RLR to the POI shall be:

SLR = 8 ± 3 dB;

RLR = 2 ± 3 dB.

Where a user-controlled receiving volume control is provided, the RLR shall meet the nominal value for at least one setting of the control. When the control is set to maximum, the RLR shall not be ≤ (equal or louder than) -13 dB and shall not be ≥ (equal or quieter than) ‑3 dB.

With the volume control set to the minimum position the RLR shall not be ≥ (equal or quieter than) 24 dB and should not be ≥ (equal or quieter than) 18 dB.

Compliance shall be checked by the relevant tests described in TS 26.132.

### 7.2.2 Connections with handset UE

The nominal values of SLR/RLR to the POI shall be:

SLR = 8 ± 3 dB;

RLR = 2 ± 3 dB.

Where a user-controlled receiving volume control is provided, the RLR shall meet the nominal value for at least one setting of the control. When the control is set to maximum, the RLR shall not be ≤ (equal or louder than) -13 dB and shall not be ≥ (equal or quieter than) ‑3 dB.

With the volume control set to the minimum position the RLR shall not be ≥ (equal or quieter than) 24 dB and should not be ≥ (equal or quieter than) 18 dB.

Compliance shall be checked by the relevant tests described in TS 26.132.