**3GPP TSG-RAN WG4 Meeting #101-e *R4-2120786***

**Electronic meeting, November 1-12, 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.124** | **CR** | **CRNum** | **rev** | **-** | **Current version:** | **16.1.0** |  |
|  | | | | | | | | |
| *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 |  | Core Network |  |

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| ***Title:*** | Big CR for TS 36.124 Maintenance | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MCC, Nokia | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2021-11-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **A** |  | | | | | ***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 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | This big CRs merge the multiple endorsed draft CRs. The reason for change in each endorsed draft CR is copied below.  R4-2120748 Draft CR to TS 36.124: correction of the frequency range for the RI test, Rel-16  It was observed, that the E-UTRA UE EMC specification is not following the IEC 61000-4-3 specification in terms of the frequency range applicable to the radiated immunity testing.  Please note, that all other RAN4 EMC specifications already reflect the IEC 61000-4-3 correctly. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The summary of change in each endorsed draft CR is copied below.  R4-2120748 Draft CR to TS 36.124: correction of the frequency range for the RI test, Rel-16  Correction of the frequency range applicable to the Radiated Immunity testing (to be up to 6 GHz), as per IEC 61000-4-3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The consequences if not approved for each endorsed draft CR are copied below.  R4-2120748 Draft CR to TS 36.124: correction of the frequency range for the RI test, Rel-16  E-UTRA UE EMC specification would be misaligned with the IEC specification, and other RAN4 EMC specifications. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.2, 9.2, 9.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

**<Start of change>**

## 7.2 Immunity

Table 2: Immunity applicability

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| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Equipment test requirement** | | |  |  |
| **Phenomenon** | **Application** | **Equipment connected to fixed AC or DC power installations** | **Equipment connected to vehicular DC supplies** | **Equipment powered by integral battery** | **Reference subclause in the present document** | **Reference standard** |
| **RF electro­magnetic field (80 MHz to 6000 MHz)** | Enclosure | applicable | applicable | applicable | 9.2 | IEC 61000‑4‑3 [17] |
| **Electrostatic discharge** | Enclosure | applicable | applicable | applicable | 9.3 | IEC 61000‑4‑2 [18] |
| **Fast transients common mode** | Signal and control ports, DC and AC power input ports | applicable | not applicable | not applicable | 9.4 | IEC 61000‑4‑4 [19] |
| **RF common mode**  **0,15 MHz to 80 MHz** | Signal and control ports, DC and AC power input ports | applicable | applicable | applicable | 9.5 | IEC 61000‑4‑6 [20] |
| **Transients and surges, vehicular environment** | DC power input ports | not applicable | applicable | not applicable | 9.6 | ISO 7637 Part 1 [6]  And  ISO 7637 Part 2 [7] |
| **Voltage dips and interruptions** | AC mains power input ports | applicable | not applicable | not applicable | 9.7 | IEC 61000‑4‑11 [21] |
| **Surges, common and differential mode** | DC and AC power input ports | applicable | not applicable | not applicable | 9.8 | IEC 61000‑4‑5 [22] |

**<Next change>**

## 9.2 RF electromagnetic field (80 MHz - 6000 MHz)

The test shall be performed on a representative configuration of the equipment or a representative configuration of the combination of UE and ancillary equipment.

### 9.2.1 Definition

This test assesses the ability of UE and ancillary equipment to operate as intended in the presence of a radio frequency electromagnetic field disturbance at the enclosure.

### 9.2.2 Test method and level

The test method shall be in accordance with IEC 61000‑4‑3 [17]:

- for UE and ancillary equipment the following requirements shall apply;

- the test level shall be 3 V/m amplitude modulated to a depth of 80 % by a sinusoidal audio signal of 1 kHz;

- the stepped frequency increments shall be 1 % of the momentary frequency;

- when using the max hold detector method (see ANNEX A) at each test frequency step initially an unmodulated test signal shall be applied. Then the test modulation shall be applied;

- the test shall be performed over the frequency range 80 MHz to 6000 MHz;

- responses in stand alone receivers or receivers which are part of transceivers occurring at discrete frequencies which are narrow band responses, shall be disregarded, see subclause 4.3;

- the frequencies selected during the test shall be recorded in the test report.

**<End of change>**