**3GPP TSG-RAN WG4 Meeting #111 R4-2409945
Fukuoka, Japan, 20th – 24th May, 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.141-1** | **CR** | **0447** | **rev** | **1** | **Current version:** | 17.13.0 |  |
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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 |  | Core Network |  |

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| ***Title:***  | CR to TS 38.141-1: Clarification on multiple carrier operation for n100/n101, Rel‑17 |
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| ***Source to WG:*** | Vodafone, Orange, Telecom Italia, Deutsche Telekom  |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_FR1\_lessthan\_5MHz\_BW\_Ph2-Perf, NR\_RAIL\_EU\_900MHz-Perf, NR\_RAIL\_EU\_1900MHz\_TDD-Perf  |  | ***Date:*** | 2024-05-10 |
|  |  |  |  |  |
| ***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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | Based on discussion in R4- 2409466 capturing single-carrier and multiple-carrier aspects (including CA), in this CR we provide clarification on the multiple carrier operation for FRMCS BS operation in bands n100 and/or n101. |
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| ***Summary of change:*** | Addition of clarification for multiple carrier operation, extending the existing text on the coordinated deployments. |
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| ***Consequences if not approved:*** | Related ECC decision (20)02 (decides 4) would not be properly reflected. Band n100 and band n101 could introduce interference to other bands in CEPT countries. |
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| ***Clauses affected:*** | 6.2.1 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **X** |  |  Test specifications | TS 38.104 |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

## **<<Start of Change1>>**

### 6.2.1 Definition and applicability

The conducted BS output power requirements are specified at *single-band connector*, or at *multi-band connector*.

The *rated carrier output power* of the *BS type 1-C* shall be as specified in table 6.2.1-1.

Table 6.2.1-1: *Rated carrier output power* limits for *BS type 1-C*

|  |  |
| --- | --- |
| BS class | Prated,c,AC |
| Wide Area BS | (Note) |
| Medium Range BS | ≤ 38 dBm |
| Local Area BS | ≤ 24 dBm |
| NOTE: There is no upper limit for the Prated,c,AC rated output power of the Wide Area Base Station. |

For operation in bands n100 and n101 in CEPT countries subject to the ECC Decision (20)02 [21], the WA BS requirement in table 6.2.1-1 apply in case of coordinated RMR BS deployments, while the requirements in clause 6.2.4 apply in case of uncoordinated RMR BS deployments.

The *rated carrier output power* of the *BS type 1-H* shall be as specified in table 6.2.1-2.

Table 6.2.1-2: *Rated carrier output power* limits for *BS type 1-H*

| BS class | Prated,c,sys | Prated,c,TABC |
| --- | --- | --- |
| Wide Area BS | (Note) | (Note) |
| Medium Range BS | ≤ 38 dBm +10log(NTXU,counted) | ≤ 38 dBm |
| Local Area BS | ≤ 24 dBm +10log(NTXU,counted) | ≤ 24 dBm |
| NOTE: There is no upper limit for the Prated,c,sys or Prated,c,TABC of the Wide Area Base Station. |

In addition, for operation with shared spectrum channel access operation, the BS may have to comply with the applicable BS power limits established regionally, when deployed in regions where those limits apply and under the conditions declared by the manufacturer.

For Band n41 and n90 operation in Japan, the rated output power, Prated,c.sys for BS type 1-H or the sum of Prated,c,AC over all *antenna connectors* for BS type 1-C declared by the manufacturer shall be equal to or less than 20 W per 10 MHz bandwidth.

For band n100 in CEPT countries subject to the ECC Decision (20)02 [21], Prated,c,AC shall not exceed 51.5 dBm/5MHz + (fDL-922.1) x 40/3 dB, with fDL being the centre frequency in MHz. This limit is derived from ECC Decision (20)02 [25] assuming a 17 dBi maximum antenna gain and 4dB losses, and assuming one antenna connector. The above rated output power limit for band n100 applies to uncoordinated deployments and in case of coordinated deployments, higher output power values may be allowed.

For CEPT countries subject to the ECC Decision (20)02 [21], administrations wishing to allow multiple carriers, i.e. more than one wideband carrier (LTE, NR or NB-IoT) in band n100, should consider the implementation of a coordination procedure or other mitigation measures.

For band n101 in CEPT countries subject to the ECC Decision (20)02 [21], Prated,c,AC shall not exceed 51 dBm/10MHz or 48 dBm/5MHz. This limit is derived from ECC Decision (20)02 [25] assuming a 18 dBi maximum antenna gain and 4dB losses, and assuming one antenna connector. The above rated output power limit for band n101 applies to uncoordinated deployments and in case of coordinated deployments, higher output power values may be allowed.

For CEPT countries subject to the ECC Decision (20)02 [21], administrations wishing to allow multiple carriers, i.e. more than one wideband carrier (LTE, NR or NB-IoT) in band n101, should consider the implementation of a coordination procedure or other mitigation measures.The output power limit for the respective BS classes in tables 6.2.1.-1 and 6.2.1-2 shall be compared to the rated output power and the declared BS class. It is not subject to testing.

## **<<End of Change1>>**