**3GPP TSG-RAN WG4 Meeting # 105 *draft* R4-2220307**

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

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **38.141-2** | **CR** | **xxxx** | **rev** |  | **Current version:** | **17.7.0** |  |
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| *For* [***HELP***](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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | Big draft CR to TS38.141-2 FR2-2 RF conformance introduction |
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| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | R4 |
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| ***Work item code:*** | NR\_ext\_to\_71GHz-Perf |  | ***Date:*** | 2022-12-02 |
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| ***Category:*** | **B** |  | ***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:*** | The following inputs were incorporated:* R4-2220201: Changes are required in clauses 6.3 to 6.5 for extending current NR operation to 71GHz.
* R4-2220287: This draft CR adds support for FR2-2 in TS 38.141-2, clause 4. Information agreed in way-forward R4-2214374 is implemented. This draft CR is following the work-split agreed in R4-2217365.
* R4-2219970: As per worksplit in R4-2217365, in this draft CR we provide a placeholder to captured FR2-2 upates for sections 1,2,3, 6.7.1, 6.7.2, 6.7.3, 6.7.4, 7.6.
* R4-2220200: Current table of span and number of measurement points for OBW measurements for FR2 is not applicable to FR2-2.
* R4-2220204: For FR2-2, Capture update on clause 6.6 (EVM and TAE requirement) as well as EVM measurement interval update which changed to 80 slots (FR2-2) from 10 ms (FR1 and FR2-1). Annex L In-channel TX tests also needs to be updated.
* R4-2220208: Introduce BS RF RX conformance testing for FR2-2.
* R4-2220211: Based on the work split for FR2-2 BS conformance testing requirement in R4-2217365, this draft CR is to introduce conformance testing requirement for receiver spurious emission, receiver intermodulation.
* R4-2220212: Based on the work split for FR2-2 BS conformance testing requirement in R4-2217365, this draft CR is to introduce conformance testing requirement for receiver in-channel selectivity.
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| ***Summary of change:*** | The following inputs were incorporated:* R4-2220201: Required changes are made in clauses 6.3 to 6.5 (and related MU and TT in clause 4.1.2.2 and annex C.1) for extending current NR operation to 71GHz.
* R4-2220287: The intention with this draft CR is to stimulate discussion and create a baseline for clause 4 as input for the big CR later to be created to add support for 71 GHz in TS 38.141-2. This is a revised version of R4-2218837.
* R4-2219970:
	+ 1, 2, 3: placeholder for FR2-2 updates, if any.
	+ 6.7.1, 6.7.2, 6.7.3, 6.7.4, 7.6: FR2-2 requirements placeholder
* R4-2220200: Add a table of span and number of measurement points for OBW measurements for FR2-2.
* R4-2220204:
	+ In Clause 6.6,
		- EVM and TAE requirements are updated for FR2-2
		- EVM measurement interval updated to 80 slots for FR2-2
		- EVM requirement with FR2-2 MU value [1.1]%
	+ In Annex L,
		- Measurement interval is changed to 80 slots for FR2-2. All related text to be updated in Annex L.
* R4-2220208:
	+ 1) Add MU for FR2-2 for OTA reference sensitivity level, OTA ACS, and OTA in-band blocking (General) in Table 4.1.2.3-2.
	+ 2) Add OTA reference sensitivity requirement for FR2-2 in Table 7.3.5.3-3.
	+ 3) Add OTA ACS requirement for FR2-2 in Table 7.5.1.5.3-1.
	+ 4) Aad OTA ACS interferer frequency offset for FR2-2 in Table 7.5.1.5.3-2.
	+ 5) Add ΔfOOB offset for FR2-2 in Table 7.5.2.5.3-0.
	+ 6) Add general OTA blocking requirement in Table 7.5.2.5.3-1.
	+ 7) Add TTOTA for OTA reference sensitivity level for FR2-2 in Table C.2-2.
* R4-2220211: To introduce the conformance testing requirement for receiver spurious emission, receiver intermodulation in FR2-2.
* R4-2220212: To introduce the conformance testing requirement for receiver in-channel selectivity in FR2-2.
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| ***Consequences if not approved:*** | The following inputs were incorporated:* R4-2220201: Required changes are not made in clauses 6.3 to 6.5 for extending current NR operation to 71GHz.
* R4-2220287: The additions necessary for FR2-2 can be summarized as:
	+ Addition of entries in table for maximum OTA test system uncertainty for FR2 OTA transmitter tests.
	+ Addition of maximum OTA test system uncertinty for FR2-2 radiated transmit power requirement (EIRP).
	+ Addition of entreis in table for maximum OTA test system uncertainty for FR2 OTA receiver tests.
	+ Addition of entries in table for signal to be used to build NR TCs for BS type 2-O.
	+ Addition of table for configurations of TDD for FR2-2 test models.
* R4-2219970: Implementation of BS 2-O requirements would not be complete for FR2-2 range.
* R4-2220200: Span and number of measurement points for OBW measurements for FR2-2 remain missing.
* R4-2220204: Specification doesn’t describe FR2-2 requirements and measurements.
* R4-2220208: The BS RF Rx conformance testings for FR2-2 in TS 38.141-1 would be missing.
* R4-2220211: Conformance testing requirement for receiver spurious emission, receiver intermodulation in FR2-2 is missing.
* R4-2220212: Conformance testing requirement for receiver in-channel selectivity in FR2-2 is missing.
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| ***Clauses affected:*** | 1,2,3, 4.1.2.2, 4.1.2.3, 6.3, 6.4, 6.5, 6.6, 6.7.1, 6.7.2, 6.7.2.4.2, 6.7.3, 6.7.4, 7.3.5.3, 7.5.1.5.3, 7.5.2.5.3, 7.6, 7.7, 7.8, 7.9, C.1, C.2, L |
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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:*** |  |
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| ***This CR's revision history:*** |  |