**3GPP TSG-RAN4 Meeting #98-e *R4-2103800***

**Online, , 25th Jan 2021 - 5th Feb 2021**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **38.141-1** | **CR** | **0170** | **rev** | **1** | **Current version:** | **15.7.0** |  |
|  |
| *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 |  | Radio Access Network | **x** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | CR for 38.141-1: BS demodulation synchronization in test setup |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Perf |  | ***Date:*** | 2021-01-14 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-15 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | Test setup description for BS demod is inconsistent between 38.141-1 (V15.7.0) and 38.141-2 (V 15.8.0) with respect to possible synchronization sources allowed, when signal genrators are used for testing.This leads to potentially requiring different baseband implemenations for the BS demodulation test mode depending on usage of OTA and conduted test setup. An extended reasoning can be found in the Tdoc [R4-2100557]. |
|  |  |
| ***Summary of change:*** | Include the sentence “In tests performed with signal generators a synchronization signal may be provided from the BS to the signal generator, to enable correct timing of the wanted signal” from the radiated test specificaiton also in the conducted test specification. |
|  |  |
| ***Consequences if not approved:*** | Some practical baseband implemenations of BS demodultion testing might be unintentionally non-compliant with specifications. |
|  |  |
| ***Clauses affected:*** | 8.1.1 |
|  |  |
|  | **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:*** | AI 4.9.3 |
|  |  |
| ***This CR's revision history:*** | R4-2100548 |

Start of change

### 8.1.1 Scope and definitions

Conducted performance requirements specify the ability of the *BS type 1-C* or *BS type 1-H* to correctly demodulate signals in various conditions and configurations. Conducted performance requirements are specified at the *antenna connector(s)* (for *BS type 1-C*) and at the *TAB connector(s)* (for *BS type 1-H*).

Conducted performance requirements for the BS are specified for the fixed reference channels and the propagation conditions defined in TS 38.104 [2] annex A and annex H, respectively. The requirements only apply to those FRCs that are supported by the BS.

Unless stated otherwise, performance requirements apply for a single carrier only. Performance requirements for a BS supporting CA are defined in terms of single carrier requirements.

For FDD operation the requirements in clause 8 shall be met with the transmitter units associated with *antenna connectors* (for *BS type 1-C*) or *TAB connectors* (for *BS type 1-H*) in the *operating* *band* turned ON.

NOTE: In normal operating conditions *antenna connectors* (for *BS type 1-C*) or *TAB connectors* (for *BS type 1-H*) in FDD operation are configured to transmit and receive at the same time. The associated transmitter unit(s) may be OFF for some of the tests.

In tests performed with signal generators a synchronization signal may be provided between the BS and the signal generator, to enable correct timing of the wanted signal.

The SNR used in this clause is specified based on a single carrier and defined as:

 SNR = S / N

 Where:

S is the total signal energy in a slot on a single *antenna connector* (for *BS type 1-C*) or on a single *TAB connector* (for *BS type 1-H*).

N is the noise energy in a bandwidth corresponding to the transmission bandwidth over the duration of a slot.

End of change