**3GPP TSG-RAN4 Meeting #**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **0274** | **rev** | 1 | **Current version:** |  |  |
|  | | | | | | | | |
| *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: Introduction of Noc power level for n259 PC5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_FR2\_FWA\_Bn259-Perf | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | Introduction of Ioc for PC5 in n259. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | TS38.101-2 V17.2.3 Clauses 7.3.2.5-1 specifie REFSENS of n259 with CBW=50MHz as -89.7 dBm for PC5. Noc values are derived according TS38.101-4 4.5.3.3:  Noc(PC\_P, Band\_X) = REFSENSPC\_P, Band\_X, 50MHz – 10log10(12 x 120kHz x PRBREFSENS) – SNRREFSENS + Δthermal   = REFSENSPC\_P, Band\_X, 50MHz - 69.8  \* Noc(PC5, Band\_n259) = -89.7 - 69.8 = -159.5  Introducing the applicability rule of FR2 UE demodulation requirements for UE supporting band n259. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Noc is undefiend for UEs capable of PC5 in n259. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.5.3.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | TS38.521-4 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision of R4-2118687. Fixed WI code in the coversheet. | | | | | | | | |

----------------------------------------------------- Beginning of Change ------------------------------------------------------------

### 4.5.3 Noc

#### 4.5.3.1 Introduction

For Mode 1 conditions radiated testing of demodulation and CSI requirements it is not feasible in practice to use signal levels high enough to make the noise contribution of the UE negligible. Demodulation requirements are therefore specified with the applied noise higher than the UE peak EIS level in TS 38.101-2 [7] by a defined amount, so that the impact of UE noise floor is limited to no greater than a value **∆BB** at the specified Noc level. As UEs have EIS levels that are dependent on operating band and power class, Noc level is dependent on operating band and power class.

#### 4.5.3.2 Noc for NR operating bands in FR2

Values for Noc according to operating band and power class for single carrier requirements are specified in Table 4.5.3.2-1 for **∆BB** =1dB.

Table 4.5.3.2-1: Noc power level for different UE power classes and frequency bands

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Operating band | UE Power class | | | | |
|  | 1 | 2 | 3 | 4 | 5 |
| n257 | -167.3 | -161.8 | -158.1 | -166.8 | -162.4 |
| n258 | -167.3 | -161.8 | -158.1 | -166.8 | -162.6 |
| n259 |  |  | -154.5 |  | -159.5 |
| n260 | -164.3 |  | -155.5 | -164.8 |  |
| n261 | -167.3 | -161.8 | -158.1 | -166.8 |  |
| n262 | -162.3 | -156.6 | -152.6 | -160.8 |  |
| Note 1: Noc levels are specified in dBm/Hz | | | | | |

For PC3 multi-band devices, the Noc power level (NocMB) shall increase by multi-band relaxation defined in Table 6.2.1.3-4 of TS 38.101-2 [7]:

NocMB = NocSB + ∆MBP,n

- NocSB is the Noc defined in Table 4.5.3.2-1

- ∆MBP,n values are specified in TS 38.101-2 [7].

For CA case, the Noc power level (NocCA) shall increase by a relaxation factor defined in TS 38.101-2 [7] Table 7.3A.2.1-1:

NocCA = NocSC + ΔRIB

- NocSC is derived by assuming UE supports single carrier.

- ΔRIB values are specified in TS 38.101-2 [7].

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