**3GPP TSG- Meeting # *x***

**Electronic Meeting, May. 9 – 20, 2022**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** |  | **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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Big CR for TS 38.101-3 Maintenance (Rel-15)  |
|  |  |
| ***Source to WG:*** | MCC, Ericsson  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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 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)* |
|  |  |
| ***Reason for change:*** | Big CR for endorsed Rel-15 maintenance draft CR’s |
|  |  |
| ***Summary of change:*** | Below draft CR’s have been implemented:R4-2207824 Draft CR for 38.101-3: Missing definitions of PEMAX\_NE-DC in Pcmax formulae (R15) R4-2209339 Draft CR for 38.101-3 to clarify the restriction of band n28 for DC\_20\_n28(R15)R4-2208868 Draft CR for correction on missing band configuration in MSD table for IM. |
|  |  |
| ***Consequences if not approved:*** | Rel-15 maintenance is not done |
|  |  |
| ***Clauses affected:*** | 5.5B.4.1, 6.2B.4.1.3a, 7.3B.2.3.5.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **X** |  |  Test specifications | TS/TR38.521-1 CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

---Start of changes---

#### 5.5B.4.1 Inter-band EN-DC configurations within FR1 (two bands)

Table 5.5B.4.1-1: Inter-band EN-DC configurations within FR1 (two bands)

| EN-DCconfiguration | Uplink EN-DCconfiguration(NOTE 1) | Single UL allowed |
| --- | --- | --- |
| DC\_1A\_n28A | DC\_1A\_n28A | No |
| DC\_1A\_n40A | DC\_1A\_n40A | No |
| DC\_1A\_n51A | DC\_1A\_n51A | No |
| DC\_1A\_n77A7DC\_1A\_n77C7 | DC\_1A\_n77A | DC\_1\_n77 |
| DC\_1A\_n78A7DC\_1A\_n78C7 | DC\_1A\_n78A | No |
| DC\_1A\_n79A7DC\_1A\_n79C7 | DC\_1A\_n79A | No |
| DC\_2A\_n5A | DC\_2A\_n5A | No |
| DC\_2A\_n66A | DC\_2A\_n66A | DC\_2\_n66 |
| DC\_2A\_n71A | DC\_2A\_n71A | No |
| DC\_2A\_n78A | DC\_2A\_n78A | DC\_2\_n78 |
| DC\_3A\_n7A | DC\_3A\_n7A | No |
| DC\_3A\_n28A | DC\_3A\_n28A | No |
| DC\_3A\_n40A | DC\_3A\_n40A | No |
| DC\_3A\_n51A | DC\_3A\_n51A | No |
| DC\_3A\_n77A7DC\_3A\_n77C7 | DC\_3A\_n77A | DC\_3\_n77 |
| DC\_3A\_n78A7DC\_3A\_n78C7DC\_3C\_n78A7 | DC\_3A\_n78A | DC\_3\_n78 |
| DC\_3A\_n79A7DC\_3A\_n79C7 | DC\_3A\_n79A | No |
| DC\_5A\_n40A | DC\_5A\_n40A | No |
| DC\_5A\_n66A | DC\_5A\_n66A | DC\_5\_n66 |
| DC\_5A\_n78A7 | DC\_5A\_n78A | No |
| DC\_7A-7A\_n78A7 | DC\_7A\_n78A | No |
| DC\_7A\_n28A | DC\_7A\_n28A | No |
| DC\_7A\_n51A | DC\_7A\_n51A | No |
| DC\_7A\_n78A7 | DC\_7A\_n78A | No |
| DC\_7C\_n78A7 | DC\_7A\_n78A | No |
| DC\_8A\_n40A7 | DC\_8A\_n40A | No |
| DC\_8A\_n77A7 | DC\_8A\_n77A | No |
| DC\_8A\_n78A7 | DC\_8A\_n78A | No |
| DC\_8A\_n79A7 | DC\_8A\_n79A | No |
| DC\_11A\_n77A7 | DC\_11A\_n77A | No |
| DC\_11A\_n78A7 | DC\_11A\_n78A | No |
| DC\_11A\_n79A7 | DC\_11A\_n79A | No |
| DC\_12A\_n5A | DC\_12A\_n5A | No |
| DC\_12A\_n66A | DC\_12A\_n66A | No |
| DC\_18A\_n77A7 | DC\_18A\_n77A | No |
| DC\_18A\_n78A7 | DC\_18A\_n78A | No |
| DC\_18A\_n79A7 | DC\_18A\_n79A | No |
| DC\_19A\_n77A7DC\_19A\_n77C7 | DC\_19A\_n77A | No |
| DC\_19A\_n78A7DC\_19A\_n78C7 | DC\_19A\_n78A | No |
| DC\_19A\_n79A7DC\_19A\_n79C7 | DC\_19A\_n79A | No |
| DC\_20A\_n8A | DC\_20A\_n8A | DC\_20\_n8 |
| DC\_20A\_n28A8,10,11 | DC\_20A\_n28A | No |
| DC\_20A\_n51A | DC\_20A\_n51A | No |
| DC\_20A\_n77A7 | DC\_20A\_n77A | No |
| DC\_20A\_n78A7 | DC\_20A\_n78A | No |
| DC\_21A\_n77A7DC\_21A\_n77C7 | DC\_21A\_n77A | No |
| DC\_21A\_n78A7DC\_21A\_n78C7 | DC\_21A\_n78A | No |
| DC\_21A\_n79A7DC\_21A\_n79C7 | DC\_21A\_n79A | No |
| DC\_25A\_n41A | DC\_25A\_n41A | No |
| DC\_26A\_n41A | DC\_26A\_n41A | No |
| DC\_26A\_n77A7 | DC\_26A\_n77A | No |
| DC\_26A\_n78A7 | DC\_26A\_n78A | No |
| DC\_26A\_n79A7 | DC\_26A\_n79A | No |
| DC\_28A n51A | DC\_28A\_n51A | No |
| DC\_28A\_n77A7DC\_28A\_n77C7 | DC\_28A\_n77A | No |
| DC\_28A\_n78A7DC\_28A\_n78C7 | DC\_28A\_n78A | No |
| DC\_28A\_n79A7DC\_28A\_n79C7 | DC\_28A\_n79A | No |
| DC\_30A\_n5A | DC\_30A\_n5A | No |
| DC\_30A\_n66A | DC\_30A\_n66A | No |
| DC\_38A\_n78A7 | DC\_38A\_n78A | No |
| DC\_39A\_n78A5,7 | DC\_39A\_n78A | No |
| DC\_39A\_n79A7 | DC\_39A\_n79A | No |
| DC\_40A\_n77A | DC\_40A\_n77A | No |
| DC\_41A\_n77ADC\_41C\_n77A | DC\_41A\_n77A | No |
| DC\_41A\_n78ADC\_41C\_n78A | DC\_41A\_n78A | No |
| DC\_41A\_n79A6,7DC\_41C\_n79A6,7 | DC\_41A\_n79A | No |
| DC\_42A\_n51A | DC\_42A\_n51A | No |
| DC\_42A\_n77A3,4,9DC\_42A\_n77C3,4,9DC\_42C\_n77A3,4,9DC\_42C\_n77C3,4,9DC\_42D\_n77A3,4,9DC\_42E\_n77A3,4,9 | N/A | N/A |
| DC\_42A\_n78A3,4,9DC\_42A\_n78C3,4,9DC\_42C\_n78A3,4,9DC\_42C\_n78C3,4,9DC\_42D\_n78A3,4,9DC\_42E\_n78A3,4,9 | N/A | N/A |
| DC\_42A\_n79A9,15DC\_42A\_n79C9,15DC\_42C\_n79A9,15DC\_42C\_n79C9,15DC\_42D\_n79A9,15DC\_42E\_n79A9,15 | N/A | N/A |
| DC\_46A\_n78A2DC\_46C\_n78A2DC\_46D\_n78A2DC\_46E\_n78A2 | N/A | N/A |
| DC\_66A\_n5A | DC\_66A\_n5A | DC\_66\_n5 |
| DC\_66A\_n71A | DC\_66A\_n71A | No |
| DC\_66A\_n78A | DC\_66A\_n78A | No |
| NOTE 1: Uplink EN-DC configurations are the configurations supported by the present release of specifications.NOTE 2: Restricted to E-UTRA operation when inter-band carrier aggregation is configured. The downlink operating band for Band 46 is paired with the uplink operating band (external E-UTRA band) of the carrier aggregation configuration that is supporting the configured Pcell.NOTE 3: The minimum requirements apply only when there is non-simultaneous Tx/Rx operation between E-UTRA and NR carriers. This restriction applies also for these carriers when applicable EN-DC configuration is part of a higher order EN-DC configuration.NOTE 4: The minimum requirements for intra-band non-contiguous EN-DC apply. When UE capability *interBandContiguousMRDC* is indicated, the minimum requirements for intra-band-contiguous EN-DC also should be met in addtion to intra-band non-contiguous EN-DC*.* The intra-band requirements also apply for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration.NOTE 5: The frequency range above 3600 MHz for Band n78 is not used in this combination.NOTE 6: The frequency range below 2506 MHz for Band 41 is not used in this combination.NOTE 7: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability.NOTE 8: The frequency range in band n28 / 28 is restricted for this band combination to 703 - 733 MHz for the UL and 758-788 MHz for the DL. This restriction also apply for any band combinations when DC\_20\_n28/ DC\_28\_n20/ CA\_20-28/ CA\_n20-n28 is a subset of a higher order band combination.NOTE 9: The combination is not used alone as fall back mode of other band combinations in which UL in Band 42 is not used.NOTE 10: The minimum requirements apply for DL carriers with a maximum power spectral density imbalance of [6] dB. The power spectral density imbalance condition also applies for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration NOTE 11: The minimum requirements apply for synchronized DL carriers with a maximum receive time difference ≤ 3 usec. The requirements also apply for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configurationNOTE 12: Void.NOTE 13: Void.NOTE 14: Void.NOTE 15: Simultaneous Rx/Tx capability does not apply for UEs supporting band 42 with a n77 implementation only. Same restrictions are applied to related higher order configurations. |

---Text omitted---

##### 6.2B.4.1.3a Inter-band NE-DC within FR1

For inter-band dual connectivity with one uplink serving cell per CG on E-UTRA and NR respectively, the UE is allowed to set its configured maximum output power PCMAX,*c(i),i* for serving cell *c(i)* of CG *i, i = 1,2*, and its total configured maximum transmission power for NE-DC operation, $P\_{Total}^{NE-DC}$= 10log10($\hat{P}\_{total}^{NE-DC}$) with $\hat{P}\_{total}^{NE-DC}$ as specified in clause 7.6.1A of TS 38.213 [10].

The configured maximum output power PCMAX\_E-UTRA,*c* (*p*) in sub-frame *p* for the configured E-UTRA uplink carrier shall be set within the bounds:

PCMAX\_L\_E-UTRA,*c* (*p*) ≤ PCMAX\_E-UTRA,*c* (*p*) ≤ PCMAX H \_E-UTRA,*c* (*p*)

where PCMAX\_L\_E-UTRA,*c* andPCMAX H \_E-UTRA,*c* are the limits for a serving cell *c* as specified in TS 36.101 [4] clause 6.2.5 modified by PLTE as follows:

PCMAX\_L\_E-UTRA,*c* = MIN { PEMAX, NE-DC , (PPowerClass, NE-DC – ΔPPowerClass,NE-DC ), MIN(PEMAX,*c*, PLTE) – tC\_ E-UTRA, *c*, (PPowerClass,E-UTRA – ΔPPowerClass,E-UTRA) – MAX(MPR*c* + A-MPR*c* + ΔTIB,c + TC\_ E-UTRA, *c* + TProSe, P-MPR*c*)}

PCMAX H \_E-UTRA,*c* = MIN {PEMAX,*c*, PEMAX, NE-DC , (PPowerClass, NE-DC – ΔPPowerClass,NE-DC ), PLTE, PPowerClass,E-UTRA – ΔPPowerClass,E-UTRA}

with exception that

- if no symbol of slot  of the NR that is indicated as uplink or flexible by *TDD-UL-DL-ConfigurationCommon* or *TDD*-*UL-DL-ConfigDedicated* overlaps with subframe  of the E-UTRA; or

- if NR slot(s) that is indicated as downlink by *TDD-UL-DL-ConfigurationCommon* or *TDD*-*UL-DL-ConfigDedicated* does not overlap with subframe  of the E-UTRA; then

PCMAX\_L\_E-UTRA,*c* = MIN { PEMAX, NE-DC , (PPowerClass, NE-DC – ΔPPowerClass,NE-DC ), PEMAX,*c* – tC\_ E-UTRA, *c*, (PPowerClass,E-UTRA – ΔPPowerClass,E-UTRA) – MAX(MPR*c* + A-MPR*c* + ΔTIB,c + TC\_ E-UTRA, *c* + TProSe, P-MPR*c*)}

PCMAX H \_E-UTRA,*c* = MIN {PEMAX,*c*, PEMAX, NE-DC , (PPowerClass, NE-DC – ΔPPowerClass,NE-DC ), PPowerClass,E-UTRA – ΔPPowerClass,E-UTRA}

The configured maximum output power PCMAX,f,*c,NR* (*q*) in physical-channel *q* for the configured NR carrier shall be set within the bounds:

 PCMAX\_L,f,*c,,NR* (*q*) ≤ PCMAX,f,*c,NR* (*q*) ≤ PCMAX\_H,f,*c,NR* (*q*)

where PCMAX\_L,f,*c,NR* andPCMAX\_H,f,*c,NR* are the limits for a serving cell c as specified in clause 6.2.4 of TS 38.101-1 [2] modified by PNR as follows:

PCMAX\_L,f,*c,,NR* = MIN { PEMAX, NE-DC , (PPowerClass, NE-DC – ΔPPowerClass,NE-DC ), MIN(PEMAX,c , PNR ) - TC\_NR, *c*, (PPowerClass,NR – ΔPPowerClass,NR) – MAX(MPRc + A-MPRc+ ΔTIB,c + TC\_NR, *c* + ∆TRxSRS, P-MPRc) }

 PCMAX\_H,f,*c,NR* = MIN {PEMAX,c, PEMAX, NE-DC , (PPowerClass, NE-DC – ΔPPowerClass,NE-DC ), PNR , PPowerClass,NR – ΔPPowerClass,NR }

- PEMAX,NE-DC signalled by RRC as *p-UE-FR1* in TS 38.331 [9];

- PLTE signalled by RRC as *p-MaxEUTRA* in TS 36.331 [8];

- PNR signalled by RRC as *p-NR-FR1* defined in TS 38.331 [9];

- ΔTc\_E-UTRA, *c* = 1.5dB when NOTE 2 in Table 6.2.2-1 in TS 36.101 [4] applies for a serving cell *c*, otherwise TC\_ E-UTRA,*c* = 0dB;

- TC\_NR,*c* = 1.5dB when NOTE 3 in Table 6.2.1-1 in TS 38.101-1 [2] applies for a serving cell *c*, otherwise TC\_NR,*c* = 0dB;

- ΔTIB,c specified in clause 6.2B.4.2.3 for NE-DC, the individual Power Class defined in table 6.2B.1.3a and any other additional power reductions parameters specified in clauses 6.2B.2.3a for NE-DC are applicable to PCMAX\_E-UTRA,*c* and PCMAX,f,*c,NR* evaluations.

- PPowerClass, NE-DC is defined in clause 6.2B.1.3a for inter-band NE-DC;

- PPowerClass,NR is the nominal UE power of the power class that the UE supports for the NR band of the NE-DC combination as defined in clause 6.2.1 of 38.101-1 [2];

- PPowerClass,E-UTRA is the nominal UE power of the power class that the UE supports for the E-UTRA band of the NE-DC combination as defined in clause 6.2.2 of 36.101 [4];

- ΔPPowerClass,NE-DC = 3 dB for a power class 2 capable NE-DC UE when the IE *p-UE-FR1* as defined in TS 38.331 [9] is provided and set to the maximum output power of the default power class or lower; otherwise ΔPPowerClass,NE-DC = 0 dB;

If the transmissions from NR and E-UTRA do not overlap, then the complete clauses for configured transmitted power for E-UTRA and NR respectively from their own specifications apply with the modifications specified above. The lower value between PPowerClass, NE-DC or PEMAX, NE-DC shall not be exceeded at any time by UE.

$P\_{Total}^{NE-DC}$ = 10log10($\hat{P}\_{total}^{NE-DC}$) with $P\_{Total}^{NE-DC}$ the configured maximum transmission power for NE-DC operation as specified in clause 7.6 of TS 38.213 [10].

The total configured maximum transmission power for both synchronous and non-synchronous operation is

 $P\_{Total}^{NE-DC}$= MIN { PEMAX, NE-DC ,PPowerClass, NE-DC – ΔPPowerClass, NE-DC }

If the UE does not support dynamic power sharing,

 $P\_{Total}^{NE-DC}$= MIN { PEMAX, NE-DC ,PPowerClass, NE-DC – ΔPPowerClass, NE-DC } + 0.3 dB

If the NE-DC UE does not support dynamic power sharing, then the complete clauses for configured transmitted power for E-UTRA and NR respectively from their own specifications TS 36.101 [4] and TS 38.101-1 [2] respectively apply with the modifications specified above and $P\_{Total}^{NE-DC}$ applies.

When a UE supporting dynamic sharing is configured for overlapping E-UTRA uplink and NR uplink transmissions, the UE can set its configured maximum output power PCMAX\_E-UTRA,*c* and PCMAX,f,*c,NR* for the configured E-UTRA and NR uplink carriers, respectively, and its configured maximum transmission power for NE-DC operation, $\hat{P}\_{Total}^{NE-DC}$, as specified above.

The measured total maximum output power PUMAX over both CGs/RATs, measured over the transmission reference time duration is

 PUMAX = 10 log10 [pUMAX,*c,E-UTRA* + pUMAX,*c,NR*],

where pUMAX,*c,E-UTRA* and pUMAX,*c,NR* denotes the measured output power of serving cell *c for E-UTRA and NR* respectively, expressed in linear scale.

The measured total configured maximum output power PUMAX shall be within the following bounds:

 PCMAX\_L -TLOW (PCMAX\_L) ≤ PUMAX  ≤ PCMAX\_H + THIGH (PCMAX\_H)

with the tolerances TLOW(PCMAX\_L) and THIGH(PCMAX\_H) for applicable values of PCMAX specified in Table 6.2B.4.1.3a-2.

When an UL subframe transmission *p* from E-UTRA overlap with a physical-channel *q* from the NR*,* then for PUMAX evaluation, the E-UTRA subframe *p* is takenas reference period TREF and always considered as the reference measurement duration and the following rules are applicable.

TREF and Teval are specified in Table 6.2B.4.1.3a-1 when same or different subframe and physical-channel durations are used in aggregated carriers. PPowerClass ,NE-DC shall not be exceeded by the UE during any evaluation period of time.

**Table 6.2B.4.1.3a-1: PCMAX evaluation window**

|  |  |  |
| --- | --- | --- |
| transmission duration | TREF | Teval |
| Different transmission duration in different RAT carriers | LTE Subframe  | Min(*Tno\_hopping*, Physical Channel Length) |

For each TREF, the PCMAX\_H is evaluated per Teval and given by the maximum value over the transmission(s) within the Teval as follows:

 PCMAX\_H = MAX { PCMAX\_ NE-DC \_H (*p,q*) , PCMAX\_ NE-DC \_H (*p,q+1*), … , PCMAX\_ NE-DC \_H (*p,q+n*) }

where PCMAX\_ NE-DC \_H are the applicable upper limits for each overlapping scheduling unit pairs *(p,q*) , (*p, q+1*) , up to *(p, q+n*) for each applicable Teval duration, where q+*n* is the last NR UL physical-channel overlapping with LTE subframe p.

While PCMAX\_L is computed as follows:

 PCMAX\_L = MIN { PCMAX\_ NE-DC \_L (*p,q*) , PCMAX\_ NE-DC \_L (*p,q+1*), … , PCMAX\_ NE-DC \_L (*p,q+n*)}

where PCMAX\_NE-DC\_L are the applicable lower limits for each overlapping scheduling unit pairs *(p,q*) , (*p, q+1*) , up to *(p, q+n*) for each applicable Teval duration, where q+*n* is the last NR UL physical-channel overlapping with LTE subframe p,

With

 PCMAX\_ NE-DC \_H(*p,q*) = MIN {10 log10 [pCMAX H \_E-UTRA,*c* (*p*) + pCMAX H,f,*c,NR* (*q*)], PEMAX, NE-DC ,PPowerClass, NE-DC}

And:

 a = 10 log10 [pCMAX\_E-UTRA,*c* (*p*) +pCMAX,f,*c,NR* (*q*) ] > $P\_{Total}^{NE-DC}$

If a = TRUE

PCMAX\_ NE-DC \_L(*p,q*) = MIN {10 log10 [pCMAX L \_E-UTRA,*c* (*p*) ], PEMAX, NE-DC ,PPowerClass, NE-DC}

Else

PCMAX\_ NE-DC \_L(*p,q*) = MIN {10 log10 [pCMAX L \_E-UTRA,*c* (*p*) + pCMAX L,f,*c,NR* (*q*)], PEMAX, NE-DC ,PPowerClass, NE-DC}

where

- pCMAX H \_E-UTRA,*c* (*p*) is the E-UTRA higher limit of the maximum configured power expressed in linear scale;

- pCMAX H,f,*c,NR* (*q*) is the NR higher limit of the maximum configured power expressed in linear scale;

- pCMAX L \_E-UTRA,*c* (*p*) is the E-UTRA lower limit of the maximum configured power expressed in linear scale;

- pCMAX\_L,f,*c,NR* (*q*) is the NR lower limit of the maximum configured power expressed in linear scale;

- PPowerClass, NE-DC is defined in clause 6.2B.1.3a for inter-band NE-DC;

- pCMAX\_ E-UTRA,c (p) is the linear value of PCMAX\_ E-UTRA,c (p), the real configured max power for E-UTRA

- pCMAX,f,c,NR (q) is the linear value of PCMAX,f,c,NR (q), the real configured max power of NR

**Table 6.2B.4.1.3a-2: PCMAX tolerance for Dual Connectivity E-UTRA-NR**

|  |  |  |
| --- | --- | --- |
| PCMAX(dBm) | ToleranceTLOW (PCMAX\_L) (dB) | ToleranceTHIGH (PCMAX\_H) (dB) |
| 23 ≤ PCMAX ≤ 33 | 3.0 | 2.0 |
| 22 ≤ PCMAX < 23 | 5.0 | 2.0 |
| 21 ≤ PCMAX< 22 | 5.0 | 3.0 |
| 20 ≤ PCMAX < 21 | 6.0 | 4.0 |
| 16 ≤ PCMAX < 20 | 5.0 |
| 11 ≤ PCMAX < 16 | 6.0 |
| -40 ≤ PCMAX < 11 | 7.0 |
| NOTE 1: For UEs not indicating support of dynamic power sharing, the upper tolerance Thigh shall be reduced by 0.3 dB for P ≥ 20 dBm. |

When E-UTRA and NR transmissions overlap and the condition a = TRUE, PUMAX,f,*c,NR* (*q*) for MCG, under nominal conditions, shall meet

 PUMAX,f,*c,NR* (*q*) ≤ 10log(pCMAX H, f,*c,,NR* *c* (*q*)) + THIGH (10log(pCMAX H, f,*c,,NR* *c* (*q*))).

with the tolerances TLOW and THIGH for applicable values of PCMAX specified in Table 6.2B.4a.1.3-2.

When LTE and NR transmissions overlap and the condition a = FALSE), then PUMAX, under nominal conditions, shall be within the following bounds:

PCMAX\_L -TLOW (PCMAX\_L) ≤ PUMAX  ≤ PCMAX\_H + THIGH (PCMAX\_H)

where PCMAX\_L, PCMAX\_H, and PUMAX are specified above with the tolerances TLOW and THIGH specified in Table 6.2B.4a.1.3-2 for applicable values of PCMAX\_L and PCMAX\_H.

---Text omitted---

###### 7.3B.2.3.5.2 MSD test points for intermodulation interference due to dual uplink operation for EN-DC in NR FR1 involving three bands

Table 7.3B.2.3.5.2-0: MSD test points for Pcell due to dual uplink operation for EN-DC in NR FR1 (three bands)

| NR or E-UTRA Band / Channel bandwidth / NRB / MSD |
| --- |
| EN-DC Configuration | EUTRA/NR band | UL Fc (MHz) | UL/DL BW (MHz) | ULLCRB | DL Fc (MHz) | MSD (dB) | IMD order |
| DC\_66A\_(n)71AA | 66 | 1750 | 5 | 25 | 2150 | 5 | IMD4 |
| n71 | 678 | 10 | 10 (RBstart =0) | 632 | N/A | N/A |
| NOTE 1: For NR band, UL/DL BW and UL LCRB can be adjusted according to the supported BW and lowest SCS supported by the UE. |

Table 7.3B.2.3.5.2-1: MSD test points for Scell due to dual uplink operation for EN-DC in NR FR1 (three bands)

| NR or E-UTRA Band / Channel bandwidth / NRB / MSD |
| --- |
| EN-DC Configuration | EUTRA / NR band | UL Fc (MHz) | UL/DL BW (MHz) | ULLCRB | DL Fc (MHz) | MSD (dB) | IMD order |
| DC\_1A-3A\_n28A | 1 | 1975 | 5 | 25 | 2165 | N/A | N/A |
| n28 | 710.5 | 5 | 25 | 765.5 | N/A | N/A |
| 3 | 1723.5 | 5 | 25 | 1818.5 | 4.0 | IMD5 |
| DC\_1A-3A\_n28A | 3 | 1780 | 5 | 25 | 1875 | N/A | N/A |
| n28 | 710.5 | 5 | 25 | 765.5 | N/A | N/A |
| 1 | 1949 | 5 | 25 | 2139 | 11.0 | IMD4 |
| DC\_1A-7A\_n28A | 1 | 1935 | 5 | 25 | 2125 | N/A | N/A |
| n28 | 718 | 5 | 25 | 773 | N/A | N/A |
| 7 | 2533 | 10 | 50 | 2653 | 30.0 | IMD2 |
| DC\_1A-3A\_n77ADC\_1A-3A\_n77C | 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| 3 | 1712.5 | 5 | 25 | 1807.5 | 31.5 | IMD2 |
| n77 | 3757.5 | 10 | 50 | 3757.5 | N/A | N/A |
| 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| 3 | 1775 | 5 | 25 | 1870 | 8.5 | IMD4 |
| n77 | 3980 | 10 | 50 | 3980 | N/A | N/A |
| 1 | 1950 | 5 | 25 | 2140 | 31.0 | IMD2 |
| 3 | 1775 | 5 | 25 | 1870 | N/A | N/A |
| n77 | 3915 | 10 | 50 | 3915 | N/A | N/A |
| DC\_1A-3A\_n78ADC\_1A-3A\_n78CDC\_1A-3C\_n78A | 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| 3 | 1712.5 | 5 | 25 | 1807.5 | 31.2 | IMD2 |
| n78 | 3757.5 | 10 | 50 | 3757.5 | N/A | N/A |
| 1 | 1935 | 5 | 25 | 2125 | 2.8 | IMD5 |
| 3 | 1775 | 5 | 25 | 1870 | N/A | N/A |
| n78 | 3725 | 10 | 50 | 3725 | N/A | N/A |
| DC\_1A-5A\_n78A | 1 | 1932 | 5 | 25 | 2122 | 18.1 |  IMD3 |
| 5 | 829 | 5 | 25 | 874 | N/A | N/A |
| n78 | 3780 | 10 | 50 | 3780 | N/A | N/A |
| 1 | 1975 | 5 | 25 | 2165 | N/A | N/A |
| 5 | 840 | 5 | 25 | 885 | 3.1 | IMD5 |
| n78 | 3405 | 10 | 50 | 3405 | N/A | N/A |
| DC\_1A-7A\_n78A | 1 | 1977.5 | 5 | 25 | 2167.5 | N/A | N/A |
| 7 | 2507.5 | 5 | 25 | 2627.5 | 9.1 | IMD4 |
| n78 | 3305 | 10 | 50 | 3305 | N/A | N/A |
| 1 | 1950 | 5 | 25 | 2140 | 8.7 | IMD4 |
| 7 | 2510 | 10 | 50 | 2630 | N/A | N/A |
| n78 | 3580 | 10 | 50 | 3580 | N/A | N/A |
| DC\_1A-8A\_n78A | 1 | 1945 | 5 | 25 | 2135 | N/A | N/A |
| 8 | 900 | 5 | 25 | 945 | N/A | N/A |
| n78 | 3745 | 10 | 52 | 3745 | 14.9 | IMD3 |
| 1 | 1940 | 5 | 25 | 2130 | N/A | N/A |
| 8 | 895 | 5 | 25 | 940 | 3.3 | IMD5 |
| n78 | 3380 | 10 | 52 | 3330 | N/A | N/A |
| DC\_1A-3A\_n79A  | 1 | 1950 | 5 | 25 | 2140 | 3.6 | IMD5 |
| 3 | 1750 | 5 | 25 | 1845 | N/A | N/A |
| n79 | 4860 | 40 | 216 | 4860 | N/A | N/A |
| DC\_1A-18A\_n77A | 1 | N/A | N/A | N/A | N/A | N/A | N/A |
| 18 | N/A | N/A | N/A | N/A | N/A | IMD5 |
| n77 | N/A | N/A | N/A | N/A | N/A | N/A |
| 1 | 1930 | 5 | 25 | 2120 | 16.4 | IMD3 |
| 18 | 825 | 5 | 25 | 870 | N/A | N/A |
| n77 | 3770 | 10 | 50 | 3770 | N/A | N/A |
| DC\_1A-18A\_n78A | 1 | N/A | N/A | N/A | N/A | N/A | N/A |
| 18 | N/A | N/A | N/A | N/A | N/A | IMD5 |
| n78 | N/A | N/A | N/A | N/A | N/A | N/A |
| 1 | 1930 | 5 | 25 | 2120 | 16.4 | IMD3 |
| 18 | 819 | 5 | 25 | 864 | N/A | N/A  |
| n78 | 3758 | 10 | 50 | 3758 | N/A | N/A  |
| DC\_1A-18A\_n79A | 1 | 1935 | 5 | 25 | 2125 | N/A | N/A  |
| 18 | 822.5 | 5 | 25 | 867.5 | 18.3 | IMD3 |
| n79 | 4737.5 | 40 | 216 | 4737.5 | N/A | N/A  |
| 1 | 1930 | 5 | 25 | 2120 | N/A | N/A  |
| 18 | 820 | 5 | 25 | 865 | 8.9 | IMD4 |
| n79 | 4925 | 40 | 216 | 4925 | N/A | N/A  |
| 1 | 1935 | 5 | 25 | 2125 | 8.1 | IMD4 |
| 18 | 822.5 | 5 | 25 | 867.5 | N/A | N/A |
| n79 | 4592.5 | 40 | 216 | 4592.5 | N/A | N/A |
| DC\_1A-19A\_n77ADC\_1A-19A\_n78A | 1 | 1940 | 5 | 25 | 2130 | 17.8 | IMD3 |
| 19 | 832.5 | 5 | 25 | 877.5 | N/A | N/A |
| n77, n78 | 3795 | 10 | 50 | 3795 | N/A | N/A |
| 1 | N/A | N/A | N/A | N/A | N/A | N/A |
| 19 | N/A | N/A | N/A | N/A | N/A | IMD5 |
| n78 | N/A | N/A | N/A | N/A | N/A | N/A |
| DC\_1A-19A\_n79A | 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| 19 | 837.5 | 5 | 25 | 882.5 | 18.3 | IMD3 |
| n79 | 4782.5 | 40 | 216 | 4782.5 | N/A | N/A |
| 1 | 1950 | 5 | 25 | 2140 | 8.1 | IMD4 |
| 19 | 837.5 | 5 | 25 | 882.5 | N/A | N/A |
| n79 | 4652.5 | 40 | 216 | 4652.5 | N/A | N/A |
| DC\_1A-20A\_n78A | 1 | 1930 | 5 | 25 | 2120 | 20.3 | IMD3 |
| 20 | 835 | 5 | 25 | 794 | N/A | N/A |
| n78 | 3790 | 10 | 50 | 3790 | N/A | N/A |
| DC\_1A-20A\_n78A | 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| 20 | 851 | 5 | 25 | 810 | 3.0 | IMD5 |
| n78 | 3330 | 10 | 50 | 3330 | N/A | N/A |
| DC\_1A-21A\_n77ADC\_1A-21A\_n78A | 1 | 1964.6 | 5 | 25 | 2154.6 | 30.6 | IMD2 |
| 21 | 1450.4 | 5 | 25 | 1498.4 | N/A | N/A |
| n77, n78 | 3605 | 10 | 50 | 3605 | N/A | N/A |
| 1 | N/A | N/A | N/A | N/A | N/A | N/A |
| 21 | N/A | N/A | N/A | N/A | N/A | IMD2 |
| n78 | N/A | N/A | N/A | N/A | N/A | N/A |
| 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| 21 | 1452 | 5 | 25 | 1500 | 2.9 | IMD5 |
| n77, n78 | 3675 | 10 | 50 | 3675 | N/A | N/A |
| DC\_1A-21A\_n79A | 1 | N/A | N/A | N/A | N/A | N/A | N/A |
| 21 | N/A | N/A | N/A | N/A | N/A | IMD4 |
| n79 | N/A | N/A | N/A | N/A | N/A | N/A |
| DC\_1A-28A\_n77A | 1 | 1960 | 5 | 25 | 2150 | 15.8 | IMD3 |
| 28 | 740 | 5 | 25 | 795 | N/A | N/A |
| n77 | 3630 | 10 | 50 | 3630 | N/A | N/A |
| DC\_1A-28A\_n77A | 1 | 1960 | 5 | 25 | 2150 | N/A | N/A |
| 28 | 725 | 5 | 25 | 780 | 4.3 | IMD5 |
| n77 | 3330 | 10 | 50 | 3330 | N/A | N/A |
| DC\_1A-28A\_n78A | 1 | 1960 | 5 | 25 | 2150 | 15.7 | IMD3 |
| 28 | 740 | 5 | 25 | 795 | N/A | N/A |
| n78 | 3630 | 10 | 50 | 3630 | N/A | N/A |
| DC\_1A-28A\_n78A | 1 | 1970 | 5 | 25 | 2160 | N/A | N/A |
| 28 | 739 | 5 | 25 | 794 | 4.2 | IMD5 |
| n78 | 3352 | 10 | 50 | 3352 | N/A | N/A |
| DC\_1A\_n28A-n78A | 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| n28 | 733 | 5 | 25 | 788 | N/A | N/A |
| n78 | 3416 | 10 | 50 | 3416 | 15.7 | IMD3 |
| 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| n78 | 3320 | 10 | 50 | 3320 | N/A | N/A |
| n28 | 735 | 5 | 25 | 790 | 3.3 | IMD5 |
| DC\_1A-28A\_n79A | 1 | 1930 | 5 | 25 | 2120 | N/A  | N/A  |
| 28 | 733 | 5 | 25 | 788 | 15.2 | IMD3 |
| n79 | 4648 | 40 | 216 | 4648 | N/A  | N/A  |
| 1 | 1925 | 5 | 25 | 2115 | N/A  | N/A  |
| 28 | 740 | 5 | 25 | 795 | 10.0 | IMD4 |
| n79 | 4980 | 40 | 216 | 4980 | N/A  | N/A  |
| 1 | 1977.5 | 5 | 25 | 2167.5 | 1.2 | IMD4 |
| 28 | 745.5 | 5 | 25 | 800.5 | N/A | N/A |
| n79 | 4420 | 40 | 216 | 4420 | N/A  | N/A |
| 1 | 1935 | 5 | 25 | 2125 | 4.5 | IMD5 |
| 28 | 718 | 5 | 25 | 773 | N/A | N/A |
| n79 | 4807 | 40 | 216 | 4807 | N/A  | N/A |
| DC\_1A-41A\_n77A | 1 | 1970 | 5 | 25 | 2160 | N/A | N/A |
| n77 | 3400 | 10 | 50 | 3400 | N/A |
| 41 | 2510 | 5 | 25 | 2510 | 11.0 | IMD4 |
| 1 | 1950 | 5 | 25 | 2140 | 9.3 | IMD4 |
| n77 | 3710 | 10 | 50 | 3710 | N/A | N/A |
| 41 | 2640 | 5 | 25 | 2640 | N/A | N/A |
| 1 | 1930 | 5 | 25 | 2120 | N/A | N/A |
| n77 | 4150 | 10 | 50 | 4150 | N/A |
| 41 | 2510 | 5 | 25 | 2510 | 3.6 | IMD5 |
| DC\_1A-41A\_n78A | 1 | 1950 | 5 | 25 | 2140 | 9.3 | IMD4 |
| 41 | 2640 | 5 | 25 | 2640 | N/A | N/A |
| n78 | 3710 | 10 | 50 | 3710 | N/A | N/A |
| 1 | 1975 | 5 | 25 | 2165 | N/A | N/A |
| 41 | 2515 | 5 | 25 | 2515 | 12 | IMD4 |
| n78 | 3410 | 10 | 50 | 3410 | N/A | N/A |
| DC\_1A-41A\_n78A | 1 | 1955 | 5 | 25 | 2145 | 8.7 | IMD4 |
| 41 | 2507.5 | 10 | 50 | 2507.5 | N/A | N/A |
| n78 | 3580 | 10 | 50 | 3580 | N/A | N/A |
| DC\_1A-41A\_n79A | 1 | 1970 | 5 | 25 | 2160 | N/A | N/A |
| n79 | 4500 | 40 | 216 | 4500 | N/A |
| 41 | 2530 | 5 | 25 | 2530 | 29.4 | IMD2 |
| DC\_1A-42A\_n79A | 1 | 1977.5 | 5 | 25 | 2167.5 | N/A | N/A |
| n79 | 4420 | 40 | 216 | 4420 | N/A | N/A |
| 42 | 3490 | 5 | 25 | 3490 | 4.8 | IMD5 |
| 42 | 3402.5 | 5 | 25 | 3402.5 | N/A | N/A |
| n79 | 4640 | 40 | 216 | 4640 | N/A | N/A |
| 1 | 1975 | 5 | 25 | 2165 | 15.5 | IMD3 |
| 42 | 3450 | 5 | 25 | 3450 | N/A | N/A |
| n79 | 4520 | 40 | 216 | 4520 | N/A | N/A |
| 1 | 1950 | 5 | 25 | 2140 | 9.3 | IMD4 |
| DC\_1A\_n78A-n79A | 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| n78 | 3410 | 10 | 50 | 3410 | N/A | N/A |
| n79 | 4870 | 40 | 216 | 4870 | 15.9 | IMD3 |
| 1 | 1950 | 5 | 25 | 2140 | N/A | N/A |
| n79 | 4670 | 40 | 216 | 4670 | N/A | N/A |
| n78 | 3490 | 10 | 50 | 3490 | 4.6 | IMD5 |
| DC\_2A-12A\_n66A | 2 | N/A | N/A | N/A | N/A | N/A | IMD4 |
| 12 | N/A | N/A | N/A | N/A | N/A | N/A |
| n66 | N/A | N/A | N/A | N/A | N/A | N/A |
| DC\_3A-5A\_n78A | 3 | N/A | N/A | N/A | N/A | N/A | IMD3 |
| 5 | N/A | N/A | N/A | N/A | N/A | N/A |
| n78 | N/A | N/A | N/A | N/A | N/A | N/A |
| DC\_3A-7A\_n28A | 3 | 1712.5 | 5 | 25 | 1807.5 | N/A | N/A |
| n28 | 743 | 5 | 25 | 798 | N/A | N/A |
| 7 | 2562 | 10 | 50 | 2682 | 16.9 | IMD3 |
| 7 | 2543 | 10 | 50 | 2663 | N/A | N/A |
| n28 | 710.5 | 5 | 25 | 765.5 | N/A | N/A |
| 3 | 1737.5 | 5 | 25 | 1832.5 | 26.0 | IMD2 |
| DC\_3A-7A\_n78ADC\_3C-7A\_n78A DC\_3C-7C\_n78A | 3 | 1725 | 5 | 25 | 1820 | 17.6 | IMD3 |
| 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
| n78 | 3310 | 10 | 50 | 3310 | N/A | N/A |
| 3 | 1725 | 5 | 25 | 1820 | 8.6 | IMD4 |
| 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
| n78 | 3475 | 10 | 50 | 3475 | N/A | N/A |
| DC\_3A-8A\_n78A | 8 | 910 | 5 | 25 | 955 | N/A | N/A |
| n78 | 3640 | 10 | 50 | 3640 | N/A | N/A |
| 3 | 1725 | 5 | 25 | 1820 | 16.5 | IMD3 |
| DC\_3A-19A\_n78A | 3 | N/A | N/A | N/A | N/A | N/A | IMD3 |
| 19 | N/A | N/A | N/A | N/A | N/A | N/A |
| n78 | N/A | N/A | N/A | N/A | N/A | N/A |
| DC\_3A-19A\_n79A | 3 | 1775 | 5 | 25 | 1870 | N/A | N/A |
| 19 | 840 | 5 | 25 | 885 | 18.5 | IMD3 |
| n79 | 4435 | 40 | 216 | 4435 | N/A | N/A |
| 3 | 1782.5 | 5 | 25 | 1877.5 | 0.2 | IMD4 |
| 19 | 842.5 | 5 | 25 | 887.5 | N/A | N/A |
| n79 | 4420 | 40 | 216 | 4420 | N/A | N/A |
| DC\_3A-20A\_n28A | 20 | 852 | 5 | 25 | 811 | N/A | N/A |
| n28 | 728 | 5 | 25 | 783 | N/A | N/A |
| 3 | 1733 | 5 | 25 | 1828 | 9.4 | IMD4 |
| DC\_3A-20A\_n78ADC\_3C-20A\_n78A | 3 | 1725 | 5 | 25 | 1820 | 17.3 | IMD3 |
| 20 | 845 | 5 | 25 | 804 | N/A | N/A |
| n78 | 3510 | 10 | 50 | 3510 | N/A | N/A |
| DC\_3A-21A\_n77ADC\_3A-21A\_n78A | 3 | 1767.5 | 5 | 25 | 1862.5 | N/A | N/A |
| 21 | 1459.5 | 5 | 25 | 1507.5 | 8.8 | IMD4 |
| n77, n78 | 3795 | 10 | 50 | 3795 | N/A | N/A |
| 3 | N/A | N/A | N/A | N/A | N/A | IMD2 |
| 21 | N/A | N/A | N/A | N/A | N/A | N/A |
| n78 | N/A | N/A | N/A | N/A | N/A | N/A |
| DC\_3A-21A\_n77A | 3 | 1771.6 | 5 | 25 | 1866.6 | 3.4 | IMD5 |
| 21 | 1450.4 | 5 | 25 | 1498.4 | N/A | N/A |
| n77 | 3935 | 10 | 50 | 3935 | N/A | N/A |
| DC\_3A-21A\_n79A | 3 | N/A | N/A | N/A | N/A | N/A | N/A |
| 21 | N/A | N/A | N/A | N/A | N/A | IMD3 |
| n79 | N/A | N/A | N/A | N/A | N/A | N/A |
| 3 | 1774.2 | 5 | 25 | 1869.2 | 17.8 | IMD3 |
| 21 | 1450.4 | 5 | 25 | 1498.4 | N/A | N/A |
| n79 | 4770 | 40 | 216 | 4770 | N/A | N/A |
| DC\_3A-28A\_n77A | 3 | 1712.5 | 5 | 25 | 1807.5 | N/A | N/A |
| 28 | 715 | 5 | 25 | 770 | 15.3 | IMD3 |
| n77 | 4195 | 10 | 50 | 4195 | N/A | N/A |
| 3 | 1755 | 5 | 25 | 1850 | 17.0 | IMD3 |
| 28 | 735 | 5 | 25 | 790 | N/A | N/A |
| n77 | 3320 | 10 | 50 | 3320 | N/A | N/A |
| DC\_3A-28A\_n78A | 3 | 1775 | 5 | 25 | 1870 | 17.3 | IMD3 |
| 28 | 740 | 5 | 25 | 760 | N/A | N/A |
| n78 | 3350 | 10 | 25 | 3350 | N/A | N/A |
| DC\_3A-28A\_n79A | 3 | 1770 | 5 | 25 | 1865 | N/A | N/A |
| 28 | 725 | 5 | 25 | 780 | 10.3 | IMD4 |
| n79 | 4530 | 40 | 216 | 4530 | N/A | N/A |
| 3 | 1775 | 5 | 25 | 1870 | 5.7 | IMD5 |
| 28 | 725 | 5 | 25 | 780 | N/A | N/A |
| n79 | 4770 | 40 | 216 | 4770 | N/A | N/A |
| DC\_3A\_n28A-n78A | 3 | 1750 | 5 | 25 | 1845 | N/A | N/A |
| n28 | 743 | 5 | 25 | 798 | N/A | N/A |
| n78 | 3764 | 10 | 50 | 3764 | 4.5 | IMD5 |
| DC\_3A-41A\_n78A | 41 | 2620 | 5 | 25 | 2620 | N/A | N/A |
| n78 | 3400 | 10 | 50 | 3400 | N/A | N/A |
| 3 | 1745 | 5 | 25 | 1840 | 16.4 | IMD3 |
| DC\_3A\_n78A-n79A | 3 | 1770 | 5 | 25 | 1865 | N/A | N/A |
| n78 | 3340 | 10 | 50 | 3340 | N/A | N/A |
| n79 | 4910 | 40 | 216 | 4910 | 16.3 | IMD3 |
| 3 | 1770 | 5 | 25 | 1865 | N/A | N/A |
| n79 | 4510 | 40 | 216 | 4510 | N/A | N/A |
| n78 | 3710 | 10 | 50 | 3710 | 4.2 | IMD5 |
| DC\_3A-SUL\_n78A-n82A | 3 | 1775 | 5 | 25 | 1870 | 4 | IMD4 |
| n82 | 840 | 5 | 25 |  | N/A | N/A |
| DC\_3A-21A\_n79A  | 3 | 1774.2 | 5 | 25 | 1869.2 | 17.8 | IMD3 |
| 21 | 1450.4 | 5 | 25 | 1498.4 | N/A | N/A |
| n79 | 4770 | 40 | 216 | 4770 | N/A | N/A |
| DC\_5A-7A\_n78A | 5 | 844 | 5 | 25 | 889 | N/A  | N/A  |
| 7 | 2525 | 5 | 25 | 2645 | 30.1 | IMD2  |
| n78 | 3489 | 10 | 50 | 3489 | N/A  | N/A  |
| 5 | 834 | 5 | 25 | 879 | 30.2 | IMD2 |
| 7 | 2550 | 5 | 25 | 2670 | N/A | N/A |
| n78 | 3429 | 10 | 50 | 3429 | N/A | N/A |
| 5 | 830 | 5 | 25 | 875 | 3.3 | IMD5 |
| 7 | 2525 | 5 | 25 | 2645 | N/A | N/A |
| n78 | 3350 | 10 | 50 | 3350 | N/A | N/A |
| DC\_5A\_41A\_n78A | 5 | 860 | 5 | 25 | 885 | 30.2 | IMD2 |
| 41 | 2615 | 5 | 25 | 2615 | N/A | N/A |
| n78 | 3500 | 10 | 50 | 3500 | N/A | N/A |
| 5 | 856.5 | 5 | 25 | 881.5 | 3.1 | IMD5 |
| 41 | 2620.5 | 5 | 25 | 2620.5 | N/A | N/A |
| n78 | 3490 | 10 | 50 | 3490 | N/A | N/A |
| DC\_7A-20A\_n28A | 20 | 842 | 5 | 25 | 801 | N/A | N/A |
| n28 | 728 | 5 | 25 | 783 | N/A | N/A |
| 7 | 2520 | 10 | 50 | 2640 | 5.9 | IMD5 |
| DC\_7A-20A\_n78A | 7 | 2560 | 5 | 25 | 2680 | N/A | N/A |
| 20 | 851 | 5 | 25 | 810 | 30.5 | IMD2 |
| n78 | 3370 | 10 | 50 | 3370 | N/A | N/A |
| DC\_7A-20A\_n78A | 7 | 2560 | 5 | 25 | 2680 | N/A | N/A |
| 20 | 851 | 5 | 25 | 810 | 3.0 | IMD5 |
| n78 | 3435 | 10 | 50 | 3435 | N/A | N/A |
| DC\_7A-20A\_n78A | 7 | 2555 | 5 | 25 | 2675 | 30.8 | IMD2 |
| 20 | 845 | 5 | 25 | 804 | N/A | N/A |
| n78 | 3520 | 10 | 50 | 3520 | N/A | N/A |
| DC\_7A-28A\_n78A | 7 | 2567.5 | 5 | 25 | 2687.5 | N/A | N/A |
| 28 | 727.5 | 5 | 25 | 782.5 | 28.8 | IMD2 |
| n78 | 3350 | 10 | 50 | 3350 | N/A | N/A |
| 7 | 2567.5 | 5 | 25 | 2687.5 | N/A | N/A |
| 28 | 727.5 | 5 | 25 | 782.5 | 3.0 | IMD5 |
| n78 | 3460 | 10 | 50 | 3460 | N/A | N/A |
| 7 | 2530 | 5 | 25 | 2650 | 30.5 | IMD2 |
| 28 | 740 | 5 | 25 | 795 | N/A | N/A |
| n78 | 3390 | 10 | 50 | 3390 | N/A | N/A |
| DC\_7A\_n28A-n78A | 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
| n28 | 745 | 5 | 25 | 800 | N/A | N/A |
| n78 | 3310 | 10 | 50 | 3310 | 29.7 | IMD2 |
| 7 | 2565 | 5 | 25 | 2685 | N/A | N/A |
| n78 | 3365 | 10 | 50 | 3365 | N/A | N/A |
| n28 | 745 | 5 | 25 | 800 | 28.8 | IMD2 |
| DC\_7A-46A\_n78A6 | 7 | N/A | N/A | N/A | N/A | N/A | N/A |
| 46 | N/A | N/A | N/A | N/A | N/A | IMD2, IMD5 |
| n78 | N/A | N/A | N/A | N/A | N/A | N/A |
| DC\_18A-28A\_n77A | 18 | 820 | 5 | 25 | 865 | N/A | N/A |
| 28 | 723 | 5 | 25 | 778 | 4.4 | IMD5 |
| n77 | 4058 | 10 | 50 | 4058 | N/A | N/A |
| DC\_18A-28A\_n77A | 18 | 820 | 5 | 25 | 865 | 3.9 | IMD5 |
| 28 | 723 | 5 | 25 | 778 | N/A | N/A |
| n77 | 3757 | 10 | 50 | 3757 | N/A | N/A |
| DC\_18A-28A\_n78A | 18 | 819 | 5 | 25 | 864 | 3.8 | IMD5 |
| 28 | 723 | 5 | 25 | 778 | N/A | N/A |
| n78 | 3756 | 10 | 50 | 3756 | N/A | N/A |
| DC\_19A-21A\_n77ADC\_19A-21A\_n78A | 19 | 837.5 | 5 | 25 | 882.5 | 18.7 | IMD3 |
| 21 | 1450.4 | 5 | 25 | 1498.4 | N/A | N/A |
| n77, n78 | 3783.3 | 10 | 50 | 3783.3 | N/A | N/A |
| DC\_19A-21A\_n77A | 19 | 837.5 | 5 | 25 | 882.5 | N/A | N/A |
| 21 | 1454.5 | 5 | 25 | 1502.5 | 9.0 | IMD4 |
| n77 | 4015 | 10 | 50 | 4015 | N/A | N/A |
| DC\_19A-21A\_n79A | 19 | N/A | N/A | N/A | N/A | N/A | IMD5 |
| 21 | N/A | N/A | N/A | N/A | N/A | N/A |
| n79 | N/A | N/A | N/A | N/A | N/A | N/A |
| 19 | 837.5 | 5 | 25 | 882.2 | N/A | N/A |
| 21 | 1452 | 5 | 25 | 1500 | 3.8 | IMD5 |
| n79 | 4850 | 40 | 216 | 4850 | N/A | N/A |
| DC\_21A-28A\_n77A | 21 | 1452 | 5 | 25 | 1500 | N/A | N/A |
| 28 | 730.5 | 5 | 25 | 785.5 | 16.9 | IMD3 |
| n77 | 3689.5 | 10 | 50 | 3689.5 | N/A | N/A |
| 21 | 1450.5 | 5 | 25 | 1498.5 | 9.9 | IMD4 |
| 28 | 730.5 | 5 | 25 | 785.5 | N/A | N/A |
| n77 | 3690 | 10 | 50 | 3690 | N/A | N/A |
| DC\_21A-28A\_n79A | 21 | 1450 | 5 | 25 | 1498 | 5.2 | IMD5 |
| 28 | 730.5 | 5 | 25 | 785.5 | N/A | N/A |
| n79 | 4420 | 40 | 216 | 4420 | N/A | N/A |
| DC\_28A-42A\_79A | 28 | 730 | 5 | 25 | 785 | N/A | N/A |
| 42 | 3420 | 5 | 25 | 3420 | 15.3 | IMD3 |
| n79 | 4880 | 40 | 216 | 4880 | N/A | N/A |
| 28 | 745 | 5 | 25 | 800 | 16.2 | IMD2 |
| 42 | 3597.5 | 5 | 25 | 3597.5 | N/A | N/A |
| n79 | 4420 | 40 | 216 | 4420 | N/A | N/A |
| DC\_19A\_n78A-n79A | 19 | 835 | 5 | 25 | 880 | N/A | N/A |
| n78 | 3680 | 10 | 50 | 3680 | N/A | N/A |
| n79 | 4515 | 40 | 216 | 4515 | 29.3 | IMD2 |
| 19 | 835 | 5 | 25 | 880 | N/A | N/A |
| n79 | 4550 | 40 | 216 | 4550 | N/A | N/A |
| n78 | 3715 | 10 | 50 | 3715 | 28.8 | IMD2 |
| DC\_20A\_n28A-n78A, DC\_20A\_SUL\_n78A-n83A | 20 | 857 | 5 | 25 | 816 | N/A | N/A |
| n28, n83 | 743 | 5 | 25 | 798 | N/A | N/A |
| n78 | 3314 | 10 | 50 | 3314 | 8.7 | IMD4 |
| 20 | 837 | 5 | 25 | 796 | N/A | N/A |
| n78 | 3310 | 10 | 50 | 3310 | N/A | N/A |
| n28 | 744 | 5 | 25 | 799 | 9.4 | IMD4 |
| DC\_21A\_n78A-n79A | 21 | 1453 | 5 | 25 | 1501 | N/A | N/A |
| n78 | 3420 | 10 | 50 | 3420 | N/A | N/A |
| n79 | 4873 | 40 | 216 | 4873 | 30.1 | IMD2 |
| 21 | 1453 | 5 | 25 | 1501 | N/A | N/A |
| n79 | 4940 | 40 | 216 | 4940 | N/A | N/A |
| n78 | 3487 | 10 | 50 | 3487 | 29.8 | IMD2 |
| NOTE 1: For NR band, UL/DL BW and UL LCRB can be adjusted according to the supported BW and lowest SCS supported by the UE. |

---End of changes---