**3GPP TSG-RAN WG4 Meeting #94-e  *R4-2002721***

**Online, Feb. 24th – March 6th, 2020**

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| *CR-Form-v11.4* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-2** | **CR** | 0113 | **rev** | 1 | **Current version:** | **15.8.0** |  |
|  | | | | | | | | |
| *For* ***HE******LP*** *on using this form: comprehensive instructions can be found at  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 for TS 38.101-2: Editorial revisions for CBW and CABW definitions | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MediaTek Inc. | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2020-02-28 |
|  |  | | | |  | |  | | |  |
| ***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 can be found in 3GPP TR 21.900. | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. “Channel Bandwidth” abbreviation CBW is used throughout the spec. which should be replaced with symbol BWChannel to align with TS 38.101-1. 2. “Cumulative Aggregated Channel Bandwidth” abbreviation CABW is used in the spec. but not defined in the abbreviations section. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Replace CBW with symbol BWChannel throughout the document. 2. Add CABW definition in the Abbreviations section. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The abbreviations CBW and CABW are not defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.3, 5.5A | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

## <<< Start of changed sections >>>

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

ACLR Adjacent Channel Leakage Ratio

ACS Adjacent Channel Selectivity

A-MPR Additional Maximum Power Reduction

AoA Angle of Arrival

BCS Bandwidth Combination Set

BPSK Binary Phase-Shift Keying

BS Base Station

BW Bandwidth

BWP Bandwidth Part

CA Carrier aggregation

CABW Cumulative Aggregated Channel Bandwidth

CA\_nX-nY Inter-band CA of component carrier(s) in one sub-block within Band X and component carrier(s) in one sub-block within Band Y where X and Y are the applicable NR *operating band*

CC Component carrier

CDF Cumulative Distribution Function

CP-OFDM Cyclic Prefix-OFDM

CW Continuous Wave

DFT-s-OFDM Discrete Fourier Transform-spread-OFDM

DM-RS Demodulation Reference Signal

DTX Discontinuous Transmission

EIRP Effective Isotropic Radiated Power

EIS Effective Isotropic Sensitivity

EVM Error Vector Magnitude

FR Frequency Range

FWA Fixed Wireless Access

GSCN Global Synchronization Channel Number

IBB In-band Blocking

IDFT Inverse Discrete Fourier Transformation

ITU‑R Radiocommunication Sector of the International Telecommunication Union

MBW Measurement bandwidth defined for the protected band

MPR Allowed maximum power reduction

NR New Radio

NR-ARFCN NR Absolute Radio Frequency Channel Number

OCNG OFDMA Channel Noise Generator

OOB Out-of-band

OTA Over The Air

P-MPR Power Management Maximum Power Reduction

PRB Physical Resource Block

QAM Quadrature Amplitude Modulation

RF Radio Frequency

REFSENS Reference Sensitivity

RIB Radiated Interface Boundary

RMS Root Mean Square (value)

RSRP Reference Signal Receiving Power

Rx Receiver

SCS Subcarrier spacing

SEM Spectrum Emission Mask

SRS Sounding Reference Symbol

SS Synchronization Symbol

TPC Transimission Power Control

TRP Total Radiated Power

Tx Transmitter

UE User Equipment

UL MIMO Uplink Multiple Antenna transmission

<<< Unchanged sections omitted >>>

## 5.5A Configurations for CA

### 5.5A.1 Configurations for intra-band contiguous CA

Table 5.5A.1-1: NR CA configurations, bandwidth combination sets, and fallback group defined for intra-band contiguous CA

| NR CA configuration / Bandwidth combination set / Fallback group | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA configuration | Uplink CA configurations | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | Maximum aggregated  BW (MHz) | BCS | Fallback group |
| CA\_n257B | CA\_n257B | 50, 100, 200, 400 | 400 |  |  |  |  |  |  | 800 | 0 | 1 |
| CA\_n257D | CA\_n257D | 50, 100, 200 | 200 |  |  |  |  |  |  | 400 | 0 | 2 |
| CA\_n257E | CA\_n257E | 50, 100, 200 | 200 | 200 |  |  |  |  |  | 600 | 0 |
| CA\_n257F | CA\_n257F | 50, 100, 200 | 200 | 200 | 200 |  |  |  |  | 800 | 0 |
| CA\_n257G | CA\_n257G | 100 | 100 |  |  |  |  |  |  | 200 | 0 | 3 |
| CA\_n257H | CA\_n257H | 100 | 100 | 100 |  |  |  |  |  | 300 | 0 |
| CA\_n257I | CA\_n257I | 100 | 100 | 100 | 100 |  |  |  |  | 400 | 0 |
| CA\_n257J | CA\_n257J | 100 | 100 | 100 | 100 | 100 |  |  |  | 500 | 0 |
| CA\_n257K | CA\_n257K | 100 | 100 | 100 | 100 | 100 | 100 |  |  | 600 | 0 |
| CA\_n257L | CA\_n257L | 100 | 100 | 100 | 100 | 100 | 100 | 100 |  | 700 | 0 |
| CA\_n257M | CA\_n257M | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 800 | 0 |
| CA\_n260B | CA\_n260B | 50, 100, 200, 400 | 400 |  |  |  |  |  |  | 800 | 0 | 1 |
| CA\_n260C | CA\_n260B | 50, 100, 200, 400 | 400 | 400 |  |  |  |  |  | 1200 | 0 |
| CA\_n260D | CA\_n260D | 50, 100, 200 | 200 |  |  |  |  |  |  | 400 | 0 | 2 |
| CA\_n260E | CA\_n260E | 50, 100, 200 | 200 | 200 |  |  |  |  |  | 600 | 0 |
| CA\_n260F | CA\_n260F | 50, 100, 200 | 200 | 200 | 200 |  |  |  |  | 800 | 0 |
| CA\_n260G | CA\_n260G | 100 | 50, 100 |  |  |  |  |  |  | 200 | 0 | 3 |
| CA\_n260H | CA\_n260H | 100 | 100 | 50, 100 |  |  |  |  |  | 300 | 0 |
| CA\_n260I | CA\_n260I | 100 | 100 | 100 | 50, 100 |  |  |  |  | 400 | 0 |
| CA\_n260J | CA\_n260J | 100 | 100 | 100 | 100 | 50, 100 |  |  |  | 500 | 0 |
| CA\_n260K | CA\_n260K | 100 | 100 | 100 | 100 | 100 | 50, 100 |  |  | 600 | 0 |
| CA\_n260L | CA\_n260L | 100 | 100 | 100 | 100 | 100 | 100 | 50, 100 |  | 700 | 0 |
| CA\_n260M | CA\_n260M | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50, 100 | 800 | 0 |
| CA\_n260O | CA\_n260O | 50, 100 | 50, 100 |  |  |  |  |  |  | 200 | 0 | 4 |
| CA\_n260P | CA\_n260P | 50, 100 | 50, 100 | 50, 100 |  |  |  |  |  | 300 | 0 |
| CA\_n260Q | CA\_n260Q | 50, 100 | 50, 100, | 50, 100 | 50, 100 |  |  |  |  | 400 | 0 |
| CA\_n261B | CA\_n261B | 50, 100, 200, 400 | 400 |  |  |  |  |  |  | 800 | 0 | 1 |
| CA\_n261C | CA\_n261B | 50 | 400 | 400 |  |  |  |  |  | 8501 | 0 |
| CA\_n261D | CA\_n261D | 50, 100, 200 | 200 |  |  |  |  |  |  | 400 | 0 | 2 |
| CA\_n261E | CA\_n261E | 50, 100, 200 | 200 | 200 |  |  |  |  |  | 600 | 0 |
| CA\_n261F | CA\_n261F | 50, 100, 200 | 200 | 200 | 200 |  |  |  |  | 800 | 0 |
| CA\_n261G | CA\_n261G | 100 | 50, 100 |  |  |  |  |  |  | 200 | 0 | 3 |
| CA\_n261H | CA\_n261H | 100 | 100 | 50, 100 |  |  |  |  |  | 300 | 0 |
| CA\_n261I | CA\_n261I | 100 | 100 | 100 | 50, 100 |  |  |  |  | 400 | 0 |
| CA\_n261J | CA\_n261J | 100 | 100 | 100 | 100 | 50, 100 |  |  |  | 500 | 0 |
| CA\_n261K | CA\_n261K | 100 | 100 | 100 | 100 | 100 | 50, 100 |  |  | 600 | 0 |
| CA\_n261L | CA\_n261L | 100 | 100 | 100 | 100 | 100 | 100 | 50, 100 |  | 700 | 0 |
| CA\_n261M | CA\_n261M | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50, 100 | 800 | 0 |
| CA\_n261O | CA\_n261O | 50, 100 | 50, 100 |  |  |  |  |  |  | 200 | 0 | 4 |
| CA\_n261P | CA\_n261P | 50, 100 | 50, 100 | 50, 100 |  |  |  |  |  | 300 | 0 |
| CA\_n261Q | CA\_n261Q | 50, 100 | 50, 100, | 50, 100 | 50, 100 |  |  |  |  | 400 | 0 |
| NOTE 1: The maximum bandwidth of band n261 is 850MHz  NOTE 2: For the NR CA configuration with more than two component carries, the bandwidths in a BCS which may introduce combinations more than requested unintentionally should be listed in a row separately. | | | | | | | | | | | | |

### 5.5A.2 Configurations for intra-band non-contiguous CA

Configurations listed in this clause apply to downlink carrier aggregation only.

Table 5.5A.2-1: NR CA configurations with single CA bandwidth class defined for intra-band non-contiguous CA

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR CA configuration / Bandwidth combination set | | | | | | | | | |
| NR configuration | Uplink CA configurations | SCS | Component carriers in order of increasing carrier frequency | | | | | Maximum aggregated  bandwidth (MHz) | BCS |
| BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) |
| CA\_n257(2A) | - | 60 | 50, 100, 200 | 50, 100, 200 |  |  |  | 400 | 0 |
| 120 | 50, 100, 200, 400 | 50, 100, 200, 400 |  |  |  | 800 |
| CA\_n260(2A) | - | 60 | 50, 100, 200 | 50, 100, 200 |  |  |  | 400 | 0 |
| 120 | 50, 100, 200, 400 | 50, 100, 200, 400 |  |  |  | 800 |
| CA\_n260(3A) | - | 60 | 50, 100, 200 | 50, 100, 200 | 50, 100, 200 |  |  | 600 | 0 |
| 120 | 50, 100, 200, 400 | 50, 100, 200, 400 | 50, 100, 200, 400 |  |  | 1200 |
| CA\_n260(4A) | - | 60 | 50, 100, 200 | 50, 100, 200 | 50, 100, 200 | 50, 100, 200 |  | 800 | 0 |
| 120 | 50, 100, 200, 400 | 50, 100, 200, 400 | 50, 100, 200, 400 | 50, 100, 200, 400 |  | 1600 |
| CA\_n261(2A) | - | 60 | 50, 100, 200 | 50, 100, 200 |  |  |  | 400 | 0 |
| 120 | 50, 100, 200, 400 | 50, 100, 200, 400 |  |  |  | 800 |
| CA\_n261(3A) | - | 60 | 50, 100, 200 | 50, 100, 200 | 50, 100, 200 |  |  | 600 | 0 |
| 120 | 50, 100, 200, 400 | 50, 100, 200, 400 | 50, 100, 200, 400 |  |  | 750 |
| CA\_n261(4A) | - | 60 | 50, 100, 200 | 50, 100, 200 | 50, 100, 200 | 50, 100, 200 |  | 700 | 0 |
| 120 | 50, 100, 200, 400 | 50, 100, 200, 400 | 50, 100, 200, 400 | 50, 100, 200, 400 |  | 700 |
| NOTE 1: (Void)  NOTE 2: The maximum frequency span including frequency gaps in between non-contiguous component carriers shall not exceed 1400 MHz for all CA configurations in the current release of specifications.  NOTE 3: Parameter value accounts for both, the constraint in NOTE 2, and the minimum frequency gaps in between non-contiguous component carriers. | | | | | | | | | |

Table 5.5A.2-2: NR CA configurations and bandwidth combination sets for intra-band non-contiguous CA

| NR CA configuration / Bandwidth combination set | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CA configuration | Uplink CA configurations | | BWChannel (MHz) | | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel (MHz) | BWChannel  (MHz) | BWChannel  (MHz) | BWChannel  (MHz) | Maximum aggregated bandwidth (MHz) | BCS |
| CA\_n260(A-I) | CA\_n260I | | See CA\_n260 Channel Bandwidth in Table 5.3.5-1 | See CA\_n260I BCS0 in Table 5.5A.1-1 | | | | |  |  |  | 800 | 0 |
| CA\_n260(D-G) | CA\_n260D-  CA\_n260G | | See CA\_n260D BCS0 in Table 5.5A.1-1 | | | See CA\_n260G BCS0 in Table 5.5A.1-1 | |  |  |  |  | 600 | 0 |
| CA\_n260(D-H) | CA\_n260D  CA\_n260H- | | See CA\_n260D BCS0 in Table 5.5A.1-1 | | | See CA\_n260H BCS0 in Table 5.5A.1-1 | | |  |  |  | 700 | 0 |
| CA\_n260(D-I) | CA\_n260D  CA\_n260I- | | See CA\_n260D BCS0 in Table 5.5A.1-1 | | | See CA\_n260I BCS0 in Table 5.5A.1-1 | | | |  |  | 800 | 0 |
| CA\_n260(D-O) | CA\_n260D  CA\_n260O- | | See CA\_n260D BCS0 in Table 5.5A.1-1 | | | See CA\_n260O BCS0 in Table 5.5A.1-1 | |  |  |  |  | 600 | 0 |
| CA\_n260(D-P) | CA\_n260D  CA\_n260P- | | See CA\_n260D BCS0 in Table 5.5A.1-1 | | | See CA\_n260P BCS0 in Table 5.5A.1-1 | | |  |  |  | 700 | 0 |
| CA\_n260(D-Q) | CA\_n260D  CA\_n260Q- | | See CA\_n260D BCS0 in Table 5.5A.1-1 | | | See CA\_n260Q BCS0 in Table 5.5A.1-1 | | | |  |  | 800 | 0 |
| CA\_n260(E-O) | CA\_n260E  CA\_n260O- | | See CA\_n260O BCS0 in Table 5.5A.1-1 | | | See CA\_n260E BCS0 in Table 5.5A.1-1 | | |  |  |  | 800 | 0 |
| CA\_n260(E-P) | CA\_n260E  CA\_n260P- | | See CA\_n260E BCS0 in Table 5.5A.1-1 | | | | See CA\_n260P BCS0 in Table 5.5A.1-1 | | |  |  | 900 | 0 |
| CA\_n260(E-Q) | CA\_n260E  CA\_n260Q- | | See CA\_n260E BCS0 in Table 5.5A.1-1 | | | | See CA\_n260Q BCS0 in Table 5.5A.1-1 | | | |  | 1000 | 0 |
| CA\_n260(G-I) | CA\_n260G  CA\_n260I - | | See CA\_n260G BCS0 in Table 5.5A.1-1 | | | See CA\_n260I BCS0 in Table 5.5A.1-1 | | | |  |  | 600 | 0 |
| CA\_n261(D-G) | | CA\_n261D  CA\_n261G- | See CA\_n261D BCS0 in Table 5.5A.1-1 | | | See CA\_n261G BCS0 in Table 5.5A.1-1 | |  |  |  |  | 600 | 0 |
| CA\_n261(D-H) | | CA\_n261D  CA\_n261H- | See CA\_n261D BCS0 in Table 5.5A.1-1 | | | See CA\_n261H BCS0 in Table 5.5A.1-1 | | |  |  |  | 700 | 0 |
| CA\_n261(D-I) | | CA\_n261D  CA\_n261I- | See CA\_n261D BCS0 in Table 5.5A.1-1 | | | See CA\_n261I BCS0 in Table 5.5A.1-1 | | | |  |  | 800 | 0 |
| CA\_n261(D-O) | | CA\_n261D  CA\_n261O- | See CA\_n261D BCS0 in Table 5.5A.1-1 | | | See CA\_n261O BCS0 in Table 5.5A.1-1 | |  |  |  |  | 600 | 0 |
| CA\_n261(D-P) | | CA\_n261D  CA\_n261P- | See CA\_n261D BCS0 in Table 5.5A.1-1 | | | See CA\_n261P BCS0 in Table 5.5A.1-1 | | |  |  |  | 700 | 0 |
| CA\_n261(D-Q) | | CA\_n261D  CA\_n261Q- | See CA\_n261D BCS0 in Table 5.5A.1-1 | | | See CA\_n261Q BCS0 in Table 5.5A.1-1 | | | |  |  | 800 | 0 |
| See CA\_n261Q BCS0 in Table 5.5A.1-1 | | | | | See CA\_n261D BCS0 in Table 5.5A.1-1 | |  |  |
| CA\_n261(E-O) | | CA\_n261E  CA\_n261O- | See CA\_n261E BCS0 in Table 5.5A.1-1 | | | | See CA\_n261O BCS0 in Table 5.5A.1-1 | |  |  |  | 800 | 0 |
| CA\_n261(E-P) | | CA\_n261E  CA\_n261P- | See CA\_n261E BCS0 in Table 5.5A.1-1 | | | | See CA\_n261P BCS0 in Table 5.5A.1-1 | | |  |  | 800 | 0 |
| CA\_n261(E-Q) | | CA\_n261E  CA\_n261Q- | See CA\_n261E BCS0 in Table 5.5A.1-1 | | | | See CA\_n261Q BCS0 in Table 5.5A.1-1 | | | |  | 800 | 0 |
| NOTE 1: (Void)  NOTE 2: The maximum frequency span including the frequency gap in between non-contiguous component carriers shall not exceed 1400 MHz for all CA configurations in the current release of specifications. | | | | | | | | | | | | | |

<<< End of changed sections >>>