**3GPP TSG-RAN WG2 Meeting #130 *R2-250xxxx***

**St. Julian’s, Malta, 19th – 23rd May 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.306** | **CR** | **1284** | **rev** | **1** | **Current version:** | **18.5.0** |  |
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| *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 | **X** | Core Network |  |

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| ***Title:*** | Corrections on Multicarrier enhancements capability descriptions | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Lenovo | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_MC\_enh-Core | | | | |  | ***Date:*** | | | 2025-05-19 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. 4.2.7.1, *scellDormancyWithinActiveTime-DCI-0-3-And-1-3-r18* (FG R1 49-9): referring to the RAN1 NR UE features list R1-2501388 the prerequisite (“6-5, at least one of {49-1, 49-1b, 49-2,49-2b}”) has not been properly implemented. 2. 4.2.7.1, *ULTxSwitchingBandPair-r18, ULTxSwitchingBandPair-v1840*: In the description of parameter *configured1T1T-OnTwoBands-r18* (FG R1 49-Z) it was missed to add that value switchedUL is reported via *uplinkTxSwitchingOptionForBandPair* (see RAN1 NR UE features list R1-2501388). 3. 4.2.7.2, *unifiedJointTCI-multiMAC-CE-DCI-1-3-r18* (FG R1 49-12): in the description of parameter *maxActivatedTCI-PerCC-r18* the reference to parameter *maxActivatedTCI-PerCC-r17* should be corrected to *maxNumMAC-CE-PerCC-r17*. 4. 4.2.7.4, *type3EnhHARQ-CB-DCI-1-3-r18* (FG R1 49-5b): referring to the RAN1 NR UE features list R1-2501388 the component 3 (“feedback of a dynamically selected enhanced type 3 HARQ-ACK codebook based on triggering information in DCI 1\_3”) is missing in the description. 5. 4.2.7.7, *simultaneous-2-1-HARQ-ACK-CB-r18* (FG R1 49-6), *simultaneous-2-2-HARQ-ACK-CB-r18* (FG R1 49-6a): referring to the RAN1 NR UE features list R1-2501388 the component 6 (“maximum number of actual PUCCH transmissions for HARQ-ACK within a slot”) is missing in the description. 6. 4.2.7.10, *configurableType-1A-FieldsForDCI-0-3-And-1-3-*r18 (FG R1 49-4c), *fdra-Type-1-Gty-2-4-8-16-RBs-RIV-DCI-1-3-And-0-3-r18* (FG R1 49-34d), *nominalRBG-SizeOfConfig-3-FDRA-Type-0-DCI-0-3-r18* (FG R1 49-4d): In the description the actual capability names *multiCell-PUSCH-DCI-0-3-SameSCS-r18* and *multiCell-PUSCH-DCI-0-3-DiffSCS-r18* should be listed instead of FG 49-2 and 49-2b, respectively. 7. Editorial issues in capability descriptions need to be fixed (replace unit “us” by “µs”, redundant word “of”, missing word “and”, missing dot, incorrect suffix “-r18”, missing space, replace the phrase “the UE also supports” by “This capability also indicates support of”; replace the phrase “The UE indicating support of” by “A UE supporting”, replace the phrase “Indicate support of” by “Indicates whether the UE supports”, etc.). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. 4.2.7.1, *scellDormancyWithinActiveTime-DCI-0-3-And-1-3-r18* (FG R1 49-9): the description of prerequisite (“6-5, at least one of {49-1, 49-1b, 49-2,49-2b}”) has been corrected. 2. 4.2.7.1, *ULTxSwitchingBandPair-r18, ULTxSwitchingBandPair-v1840*: In the description of parameter *configured1T1T-OnTwoBands-r18* (FG R1 49-Z) it has been clarified that value switchedUL is reported via *uplinkTxSwitchingOptionForBandPair-r18*. 3. 4.2.7.2, *unifiedJointTCI-multiMAC-CE-DCI-1-3-r18* (FG R1 49-12): in the description of parameter *maxActivatedTCI-PerCC-r18* the reference to parameter *maxActivatedTCI-PerCC-r17* has been corrected to *maxNumMAC-CE-PerCC-r17*. 4. 4.2.7.4, *type3EnhHARQ-CB-DCI-1-3-r18* (FG R1 49-5b): in the description the component 3 (“feedback of a dynamically selected enhanced type 3 HARQ-ACK codebook based on triggering information in DCI 1\_3”) has been added. 5. 4.2.7.7, *simultaneous-2-1-HARQ-ACK-CB-r18* (FG R1 49-6), *simultaneous-2-2-HARQ-ACK-CB-r18* (FG R1 49-6a): in the description the component 6 (“maximum number of actual PUCCH transmissions for HARQ-ACK within a slot”) has been added. 6. 4.2.7.10, *configurableType-1A-FieldsForDCI-0-3-And-1-3-*r18 (FG R1 49-4c), *fdra-Type-1-Gty-2-4-8-16-RBs-RIV-DCI-1-3-And-0-3-r18* (FG R1 49-34d), *nominalRBG-SizeOfConfig-3-FDRA-Type-0-DCI-0-3-r18* (FG R1 49-4d): In the description FG 49-2 and 49-2b have been replaced by *multiCell-PUSCH-DCI-0-3-SameSCS-r18* and *multiCell-PUSCH-DCI-0-3-DiffSCS-r18*, respectively. 7. Editorial issues in capability descriptions have been fixed.   **Impact analysis**  Impacted 5G architecture options:  NR SA, NE-DC, NR-DC  Impacted functionality:  UE capability signaling for Multicarrier enhancements  Inter-operability:  For change 1) to 7):   * There are no interoperability issues. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | * For change 1), 2), 4), 5): The capability descriptions remain misaligned with the RAN1 NR UE features list R1-2501388. * For change 3): The capability description remains misaligned with ASN.1. * For change 6), 7): Inconsistencies in the capability descriptions will remain. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.7.1, 4.2.7.2, 4.2.7.4, 4.2.7.7, 4.2.7.10 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*Start of changes*

#### 4.2.7.1 *BandCombinationList* parameters

<Text omitted>

| ***scellDormancyWithinActiveTime-DCI-0-3-And-1-3-r18***  Indicates whether the UE supports SCell dormancy indication sent within the active time on PCell with DCI format 0\_3/1\_3. One dormant BWP and one non-dormant BWP is supported per carrier. More than one non-dormant BWP per carrier is supported only if *upto4* in *bwp-SameNumerology* or *upto4* in *bwp-DiffNumerology* is also supported.  One dormant BWP and one non-dormant BWP are UE specific BWPs even for UEs not supporting *upto2* in *bwp-SameNumerology* or *upto4* in *bwp-SameNumerology*.  A UE supporting this feature shall also indicate support of CA and at least one *of multiCell-PDSCH-DCI-1-3-SameSCS-r18, multiCell-PDSCH-DCI-1-3-DiffSCS-r18, multiCell-PUSCH-DCI-0-3-SameSCS-r18* and *multiCell-PUSCH-DCI-0-3-DiffSCS-r18*. | BC | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***srs-AntennaSwitching8T8R-r18***  Indicates whether the UE supports SRS 8T8R for antenna switching. The capability comprises the following parameters:  - *antennaSwitch8T8R-r18* indicates the supporting type of 8T8R for antenna switching.  - *downGradeConfig-r18* indicates a combination of supported xTyRs of downgrade antenna switching configurations. It includes 11-bit bitmap, where starting from the leading / leftmost bit (bit 0), each bit corresponds to {1T1R, 1T2R, 1T4R, 1T6R, 1T8R, 2T2R, 2T4R, 2T6R, 2T8R, 4T4R, 4T8R}.  - *entryNumberAffect-r18* indicates the lowest band entry number of the UL group (see *entryNumberSwitch-r18*) that impacts the DL of this band entry.  - *entryNumberSwitch-r18* indicates the lowest band entry of the UL group, which is defined as band entries with UL (see NOTE 1) that impact each other's UL (i.e. SRS TX port switching on any of the cells in the group will impact UL on all the cells in the group). This parameter is absent if an UL group contains only one band entry.  The UE supporting this feature shall indicate support of *supportedSRS-Resources.*  For *entryNumberAffect-r18* and *entryNumberSwitch-r18*, value 1 means first entry, value 2 means second entry and so on. The UE may include *entryNumberAffect-r18/ entryNumberSwitch-r18* for a band entry even if *antennaSwitch8T8R-r18 is* absent for that band entry. All DL and UL that switch together indicate the same entry number.  The entry number is the band entry number in a band combination. The UE is restricted not to include fallback band combinations for the purpose of indicating different SRS antenna switching capabilities.  NOTE 1: The band with UL includes a band associated with *FeatureSetUplinkId* set to 0 corresponding to the support of *SRS-SwitchingTimeNR*.  NOTE 2: UE reports support of SRS with 8 Tx ports and Comb8 mapping —antenna switching via *srs-combEight-r17*. | BC | No | N/A | N/A |

<Text omitted>

| ***supportedBandCombListPerBC-SL-U2U-RelayDiscovery-r18***  Indicates, for a particular Uu band combination, the PC5 U2U relay discovery band combination(s) on which the UE supports simultaneous transmission/reception of PC5 data (U2U relay discovery) and Uu uplink/downlink respectively.  The leading / leftmost bit (bit 0) corresponds to the first band combination included in *supportedBandCombinationListSL-U2U-RelayDiscovery-r18*, the next bit corresponds to the second band combination included in *supportedBandCombinationListSL-U2U-RelayDiscovery-r18* and so on with value 1 indicating simultaneous transmission/reception is supported. | BC | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***switchingPeriodRestriction-r18***  Indicates whether the same value of switching period is applicable to the fallback band combinations for a given band combination supporting UL Tx switching across up to 4 bands.  When the field is included for a band combination, it represents the largest value, i.e. 210µs is supported for each band pair in all fallback band combinations.  When the field is absent, it represents the same switching period reported for each band pair in this band combination is supported for the same band pair in all the fallback band combinations. | BC | FD | N/A | FR1 only |

<Text omitted>

| ***UplinkTxSwitchingAdditionalPeriodDualUL-r18***  Indicates the UL Tx switching period for switching between a band pair and another band pair or another band, as specified in TS 38.101-1 [2], when Rel-18 UL Tx switching is configured by *uplinkTxSwitchingMoreBands-r18*.  - *bandPairIndex1-r18*/*bandPairIndex2-r18* xx refers to the xxth band pair entry in the band pair list indicated by *ULTxSwitchingBandPair-r18*. The two band pairs consist of mutually exclusive bands.  - *bandIndex-r18* xx refers to the xxth band entry in this band combination, which indicates a different band from those indicated by *bandPairIndex1-r18*.  - *switchingAdditionalPeriodDualUL-r18* indicates the length of switching period for switching between one band pair indicated by *bandPairIndex1-r18* and another band pair indicated by *bandPairIndex2-r18* or another band indicated by *bandIndex-r18*. n35us represents 35 µs, n140us represents 140µs, and so on, as specified in TS 38.101-1 [2].  A UE supporting this feature shall also indicate the support of dualUL switching option for the band pair(s) indicated in *bandPairIndex1-r18/bandPairIndex2-r18*. | BC | No | N/A | FR1 only |
| --- | --- | --- | --- | --- |
| ***ULTxSwitchingBandPair-r18, ULTxSwitchingBandPair-v1840***  Indicates UE supports Rel-18 dynamic UL Tx switching across up to 4 bands in case of inter-band CA, SUL as defined in TS 38.214 [12] and TS 38.101-1 [2]. The capability signalling comprises the following parameters:  - *bandIndexUL1-r18* and *bandIndexUL2-r18* indicate the band pair on which UE supports dynamic UL Tx switching. *bandIndexUL1*/*bandIndexUL2* xx refers to the xxth UL band entry in the band combination. UE shall indicate support of 2-layer UL MIMO in *FeatureSet* on both bands for 2Tx-2Tx switching, or indicate support of 2-layer UL MIMO on one band and 1-layer MIMO on the other band for 1Tx-2Tx switching, or indicate support of 1-layer UL MIMO on both bands for 1Tx-1Tx switching.  - *uplinkTxSwitchingOptionForBandPair-r18* indicates whether switchedUL or dualUL or both switching options is supported for a given band pair as specified in TS 38.214 [12].  - *switchingPeriodFor2T-r18* indicates the length of 2Tx-2Tx switching period. *switchingPeriodFor1T-r18* indicates the length of 1Tx-2Tx switching and/or 1Tx-1Tx switching period, as specified in TS 38.101-1 [2]. n35us represents 35 µs, n140us represents 140µs, and so on, as specified in TS 38.101-1 [2].  - *uplinkTxSwitching-DL-Interruption-r18* indicates that DL interruption on the band will occur during UL Tx switching, as specified in TS 38.133 [5]. UE is not allowed to set this field for the band combination of SUL band+TDD band, for which no DL interruption is allowed.  Field encoded as a bit map, where bit N is set to "1" if DL interruption on band N will occur during uplink Tx switching as specified in TS 38.133 [5]. The leading / leftmost bit (bit 0) corresponds to the first band of this band combination, the next bit corresponds to the second band of this band combination and so on. The capability is not applicable to the following band combinations, in which DL reception interruption is not allowed:  - TDD+TDD CA with the same UL-DL pattern  - *SwitchingPeriodUnaffectedBandDualUL-r18* indicates for a given band pair {band X and band Y}, whether/how the switching period is to be applied on band Z (as well as band X and Y), when a UL Tx switching is triggered from band pair {band X and band Z} to band pair {band Y and band Z}, as defined in TS 38.101-1 [2]. If absent for band Z, the UE is not required to transmit on any UL bands during the switching period reported for the band pair of band X and band Y, as defined in TS 38.101-1 [2].  - *bandIndexUnaffected-r18* xx indicates the band index of band Z and refers to the xxth UL band entry in the band combination.  - *maintainedUL-Trans-r18* indicates that the UE is capable of uplink transmission on band Z and is not required to transmit on band X and Y during the switching period reported for the band pair of band X and band Y, as specified in TS 38.101-1 [2].  - *periodOnULBands-r18* indicates the switching period to be applied on any UL bands as specified in TS 38.101-1 [2]. n35us represents 35 µs, n140us represents 140µs, and so on.  - *configured1T1T-OnTwoBands-r18* indicates the support of 2-band configuration of 1T-1T UL Tx switching using Rel-18 UL Tx switching configurations. This capability is applicable for a band pair where the UE reports no UL-MIMO on both bands and indicates support of switchedUL in *uplinkTxSwitchingOptionForBandPair-r18*. | BC | FD | N/A | FR1 only |

*Next changes*

#### 4.2.7.2 *BandNR parameters*

<Text omitted>

| ***unifiedJointTCI-multiMAC-CE-DCI-1-3-r18***  Indicates whether the UE supports unified TCI with joint DL/UL TCI update by DCI format 1\_3 for intra-cell and inter-cell beam management with more than one MAC-CE activated joint TCI state per CC. This capability also indicates support of using TCI state indication for update and activation, i.e. MAC-CE+DCI-based TCI state indication (use of DCI formats 1\_3 with DL assignment for at least one serving cell in a *scheduledCellListDCI-1-3* to provide indicated unified TCI state(s) for the CC(s) in the *scheduledCellListDCI-1-3*).  The capability signalling comprises the following parameters:  - *minBeamApplicationTime-r18* indicates the minimum beam application time in symbols per SCS. If the UE also supports *unifiedJointTCI-multiMAC-CE-r17*, same values as *minBeamApplicationTime-r17* for *unifiedJointTCI-multiMAC-CE-r17* are reported.  - *maxActivatedTCI-PerCC-r18* indicates the maximum number of MAC-CE activated joint TCI states per CC in a band. If the UE also supports *unifiedJointTCI-multiMAC-CE-r17*, same values as *maxNumMAC-CE-PerCC-r17* for *unifiedJointTCI-multiMAC-CE-r17* are reported.  NOTE 1: The maximum number of MAC-CE activated joint TCI states across all CC(s) in a band for more than one MAC-CE activated joint TCI state is signalled in *maxActivatedTCIAcrossCC-r17* of *unifiedJointTCI-r17*.  NOTE 2: Activated joint TCI state(s) include all PDCCH/PDSCH receptions and PUSCH/PUCCH.  A UE supporting this feature shall also indicate support of *unifiedJointTCI-r17*, and at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18* and *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*. | Band | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***unifiedJointTCI-PC-association-r17***  Indicates the support of association between TCI state and UL PC settings except for PL RSfor PUCCH, PUSCH, and SRS.  The UE indicating support of this feature shall also indicate support of *unifiedJointTCI-r17*. | Band | No | N/A | N/A |

<Text omitted>

| ***unifiedSeparateTCI-multiMAC-CE-r17, unifiedSeparateTCI-multiMAC-CE-v17b0***  Indicates TCI state indication for update and activation a) MAC-CE+DCI-based TCI state indication (use of DCI formats 1\_1/1\_2 with DL assignment)  And b) MAC-CE+DCI-based TCI state indication (use of DCI formats 1\_1/1\_2 without DL assignment).  This capability signalling includes the following parameters:  - *minBeamApplicationTime-r17* indicates the minimum beam application time in Y symbols per SCS.  - *maxActivatedDL-TCIPerCC-r17* indicates the maximum number of MAC-CE activated DL TCI states per CC in a band  - *maxActivatedUL-TCIPerCC-r17* indicates the maximum number of MAC-CE activated UL TCI states per CC in a band  *unifiedSeparateTCI-multiMAC-CE-r17* is included only when the UE supports a single SCS for the band in all the supported band combinations. *unifiedSeparateTCI-multiMAC-CE-v17b0* is only included when *unifiedSeparateTCI-multiMAC-CE-r17* is absent.  The UE indicating support of this feature shall also indicate support of *unifiedSeparateTCI-r17*. | Band | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***unifiedSeparateTCI-MultiMAC-CE-IntraCell-r18***  Indicates whether the UE supports unified TCI with separate DL/UL TCI update by DCI format 1\_3 for intra-cell beam management with more than one MAC-CE activated separate TCI state per CC. This capability also indicates support of TCI state indication for update and activation, i.e. MAC-CE+DCI-based TCI state indication (use of DCI formats 1\_3 with DL assignment for at least one serving cell in a *scheduledCellListDCI-1-3* to provide indicated unified TCI state(s) for the CC(s) in the *scheduledCellListDCI-1-3*).  The capability signalling comprises the following parameters:  - *minBeamApplicationTime-r18* indicates the minimum beam application time in symbols per SCS. If the UE also supports *unifiedJointTCI-multiMAC-CE-r17*, same values as *minBeamApplicationTime-r17* for *unifiedJointTCI-multiMAC-CE-r17* are reported.  - *maxActivatedDL-TCI-PerCC-r18* indicates the maximum number of MAC-CE activated DL TCI states per CC in a band.  - *maxActivatedUL-TCI-PerCC-r18* indicates the maximum number of MAC-CE activated UL TCI states per CC in a band.  If a UE supports *unifiedSeparateTCI-InterCell-r17*, the signalled component values also apply to inter-cell beam management.  A UE supporting this feature shall also indicate support of *unifiedSeparateTCI-r17*, and at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18* and *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*.  NOTE: For *minBeamApplicationTime-r18*, *maxActivatedDL-TCI-PerCC-r18* and *maxActivatedUL-TCI-PerCC-r18*, if the UE also reports *unifiedSeparateTCI-multiMAC-CE-r17*, same values as for *unifiedSeparateTCI-multiMAC-CE-r17* are reported. | Band | No | N/A | N/A |

*Next changes*

#### 4.2.7.4 *CA-ParametersNR*

<Text omitted>

| ***advUnicastDCI-DL-r18***  Indicates whether the UE supports processing up to X unicast DCI scheduling PDSCH per scheduled cell in a set of cells configured for multi-cell PDSCH scheduling by DCI format 1\_3.  The UE supports up to X DCI formats 1\_3 for the set of cells, and up to X unicast DL DCI formats 1\_0/1\_1/1\_2 (if supported) for each of the cells in the set of cells. For each cell in the set of cells, the UE supports no more than X DCIs scheduling PDSCH for the cell.  X is based on pair of (scheduling CC SCS, scheduled CC SCS): X={2,4} for (15,120), (15,60), (30,120). X={2} for (15,30), (30,60), (60,120 kHz). X applies per slot of scheduling CC.  A UE supporting this feature shall also indicate support of *multiCell-PDSCH-DCI-1-3-DiffSCS-r18.* | BC | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***advUnicastDCI-UL-r18***  Indicates whether the UE supports processing up to X unicast DCI scheduling PUSCH per scheduled cell in a set of cells configured for multi-cell PUSCH scheduling by DCI format 0\_3.  The UE supports up to X DCI formats 0\_3 for the set of cells, and up to X unicast UL DCI formats 0\_0/0\_1/0\_2 (if supported) for each of the cells in the set of cells. For a cell in the set of cells, the UE supports no more than X DCIs scheduling PUSCH for the cell.  X is based on pair of (scheduling CC SCS, scheduled CC SCS): X={2,4} for (15,120), (15,60), (30,120). X={2} for (15,30), (30,60), (60,120 kHz). X applies per slot of scheduling CC.  A UE supporting this feature shall also indicate support of *multiCell-PUSCH-DCI-0-3-DiffSCS-r18.* | BC | No | N/A | N/A |

<Text omitted>

| ***multiCell-PDSCH-DCI-1-3-DiffSCS-r18***  Indicates whether the UE supports monitoring DCI format 1\_3 for DL scheduling where scheduling cell is not included in a set of cells in same PUCCH group and supports Type-2 for 'Antenna port(s)' field.  The number of unicast DL DCIs to process per N consecutive slots of scheduling cell for a set of cells configured for multi-cell PDSCH scheduling by DCI format 1\_3:  *-* One DCI format 1\_3 for the set of cells and,  *-* One unicast DL DCI formats 1\_0/1\_1/1\_2 (if supported) for each of the cells that are not scheduled by DCI 1\_3  *-* For low-to-high SCS, N = 1.  *-* For high-to-low SCS, N is based on pair of (scheduling CC SCS, scheduled CC SCS): N=2 for (30,15), (60,30), (120,60) and N=4 for (60,15), (120,30), N = 8 for (120,15)  The UE monitors SS set(s) for DCI format 1\_3 for a set of cells when search space set configurations for DCI format 1\_3 for the set of cells with the same *searchSpaceId* are provided on both the scheduling cell and a serving cell in the set of cells. Scheduling cell is PCell or SCell, and a set of cells includes only SCells.  The capability signalling comprises the following parameters:  *-* *coScheduledCellSCS-r18* indicates scheduling cell and co-scheduled cells have different SCS. The set of co-scheduled cells share the same SCS and carrier type.  *-* *combinationCarrierType-r18* indicates scheduling cell and co-scheduled cells have same or different carrier type (FR1 licensed FDD or FR1 licensed TDD or FR1 unlicensed TDD or FR2-1 or FR2-2).  *-* *maxNumberCoScheduledCell-r18* indicates the max number of co-scheduled cells per set of cells supported by UE.  *-* *maxNumberSetsOfCellAcrossPUCCH-Group-r18* indicates the max number of sets of cells supported by UE across PUCCH groups.  *-* *maxNumberSetsOfCellScheduling-r18* indicates the max number of sets of cells supported by UE for a same scheduling cell.  *-* *harqFeedbackType-r18* indicates the supported HARQ feedback types. The UE shall report the same value for all BCs supporting *multiCell-PDSCH-DCI-1-3-DiffSCS-r18,* i.e. The UE shall report the same value for all supported BCs with *multiCell-PDSCH-DCI-1-3-DiffSCS-r18* reported.  *-* *coScheduledCellIndicationScheme-r18* indicates the supported co-scheduled cell indication schemes.  NOTE 1: Support of CCS with DL DCI formats 1\_1/1\_2 is according to *crossCarrierSchedulingDL-DiffSCS-r16*.  NOTE 2: 480/960 kHz SCS is not applicable to multi-cell scheduling with DCI format 1\_3. | BC | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***multiCell-PDSCH-DCI-1-3-SameSCS-r18***  Indicates whether the UE supports monitoring DCI format 1\_3 for DL scheduling with same SCS between scheduling cell and cells in the set and supports Type-2 for 'Antenna port(s)' field.  The number of unicast DL DCIs to process per slot of scheduling cell for a set of cells configured for multi-cell PDSCH scheduling by DCI format 1\_3:  - One DCI format 1\_3 for the set of cells and,  - One unicast DL DCI formats 1\_0/1\_1/1\_2 (if supported) for each of the cells that are not scheduled by DCI 1\_3.  Scheduling cell is PCell if set of cells includes PCell, and scheduling cell is PCell or an SCell if set of cells includes only SCells.  The UE monitors SS set(s) for DCI format 1\_3 for a set of cells for the following cases:  - Search space set configuration for DCI format 1\_3 for the set of cells is provided only on the scheduling cell, or;  - Search space set configurations for DCI format 1\_3 for the set of cells with the same *searchSpaceId* are provided on both the scheduling cell and a serving cell in the set of cells with the scheduling cell being not in the set of cells.  - A UE supporting this capability can additionally report *supportOfSearchSpace-r18* to indicate whether the UE supports search space set configurations for DCI format 1\_3 for the set of cells with the same searchSpaceId are provided on both the scheduling cell and a serving cell in the set of cells with the scheduling cell being in the set of cells.  The capability signalling comprises the following parameters:  *-* *coScheduledCellSCS-r18* indicates scheduling cell and co-scheduled cells have same SCS and carrier type.  *-* *maxNumberCoScheduledCell-r18* indicates the max number of co-scheduled cells per set of cells supported by UE.  *-* *maxNumberSetsOfCellAcrossPUCCH-Group-r18* indicates the max number of sets of cells supported by UE across PUCCH groups.  *-* *maxNumberSetsOfCellScheduling-r18* indicates the max number of sets of cells supported by UE for a same scheduling cell.  *-* *harqFeedbackType-r18* indicates the supported HARQ feedback types. The UE shall report the same value for all BC supporting *multiCell-PDSCH-DCI-1-3-SameSCS-r18,* i.e. The UE shall report the same value for all supported BCs with *multiCell-PDSCH-DCI-1-3-SameSCS-r18* reported.  *-* *coScheduledCellIndicationScheme-r18* indicates the supported co-scheduled cell indication schemes.  When multiple values are reported in *coScheduledCellSCS-r18* and if scheduling cell is not included in the set of cells, the UE supports multi-cell PDSCH scheduling by DCI format 1\_3 from one carrier type, indicated in *coScheduledCellSCS-r18*, to another carrier type, indicated in *coScheduledCellSCS-r18*, for the following scheduling cases:  - FR1 licensed TDD to FR1 unlicensed TDD  - FR2-1 to FR2-2  - UE can additionally report *licensed-fdd-tdd-fr1* indicating the support of FR1 licensed FDD from/to FR1 licensed TDD.  NOTE 1: Support of CCS with DL DCI formats 1\_1/1\_2 is according to *crossCarrierScheduling-SameSCS*.  NOTE 2: 480/960 kHz SCS is not applicable to multi-cell scheduling with DCI format 1\_3. | BC | No | N/A | N/A |
| ***multiCell-PUSCH-DCI-0-3-DiffSCS-r18***  Indicates whether the UE supports monitoring DCI format 0\_3 for UL scheduling where scheduling cell is not included in a set of cells in same PUCCH group and supports Type-2 for 'Antenna port(s)', 'Precoding information and number of layers' and 'SRS resource indicator' fields. Scheduling cell is PCell or SCell, and a set of cells includes only SCells.  The number of unicast UL DCIs to process per N consecutive slots of scheduling cell for a set of cells configured for multi-cell PUSCH scheduling by DCI format 0\_3:  - For FDD scheduling cell  - Up to one DCI format 0\_3 for the set of cells and,  - Up to one unicast UL DCI formats 0\_0/0\_1/0\_2 (if supported) for each of the cells  - For a cell in a set of cells, no more than one DCI scheduling PUSCH for the cell  - For TDD scheduling cell  - Up to two DCI format 0\_3 for the set of cells and,  - Up to two unicast UL DCI formats 0\_0/0\_1/0\_2 (if supported) for each of the cells  - For a cell in a set of cells, no more than two DCI scheduling PUSCH for the cell  - For low-to-high SCS, N = 1.  - For high-to-low SCS, N is based on pair of (scheduling CC SCS, scheduled CC SCS): N=2 for (30,15), (60,30), (120,60) and N=4 for (60,15), (120,30), N = 8 for (120,15).  The UE monitors SS set(s) for DCI format 0\_3 for a set of cells when search space set configurations for DCI format 0\_3 for the set of cells with the same *searchSpaceId* are provided on both the scheduling cell and a serving cell in the set of cells.  The capability signalling comprises the following parameters:  *-* *coScheduledCellSCS-r18* indicates scheduling cell and co-scheduled cells have different SCS. The set of co-scheduled cells share the same SCS and carrier type.  *-* *combinationCarrierType-r18* indicates scheduling cell and co-scheduled cells have same or different carrier type (FR1 licensed FDD or FR1 licensed TDD or FR1 unlicensed TDD or FR2-1 or FR2-2).  *-* *maxNumberCoScheduledCell-r18* indicates the max number of co-scheduled cells per set of cells supported by UE.  *-* *maxNumberSetsOfCellAcrossPUCCH-Group-r18* indicates the max number of sets of cells supported by UE across PUCCH groups.  *-* *maxNumberSetsOfCellScheduling-r18* indicates the max number of sets of cells supported by UE for a same scheduling cell.  *-* *coScheduledCellIndicationScheme-r18* indicates the supported co-scheduled cell indication schemes.  NOTE 1: Support of CCS with UL DCI formats 0\_1/0\_2 is according to *crossCarrierSchedulingUL-DiffSCS-r16*.  NOTE 2: 480/960 kHz SCS is not applicable to multi-cell scheduling with DCI format 0\_3. | BC | No | N/A | N/A |
| ***multiCell-PUSCH-DCI-0-3-SameSCS-r18***  Indicates whether the UE supports monitoring DCI format 0\_3 for UL scheduling with same SCS between scheduling cell and cells in the set and supports Type-2 for 'Antenna port(s)', 'Precoding information and number of layers' and 'SRS resource indicator' fields. Scheduling cell is PCell if set of cells includes PCell, and scheduling cell is PCell or an SCell if set of cells includes only SCells.  The number of unicast UL DCIs to process per slot of scheduling cell for a set of cells configured for multi-cell PUSCH scheduling by DCI format 0\_3:  - For FDD scheduling cell:  - Up to one DCI format 0\_3 for the set of cells and,  - Up to one unicast UL DCI formats 0\_0/0\_1/0\_2 (if supported) for each of the cells  - For a cell in a set of cells, no more than one DCI scheduling PUSCH for the cell  - For TDD scheduling cell:  - Up to two DCI format 0\_3 for the set of cells and,  - Up to two unicast UL DCI formats 0\_0/0\_1/0\_2 (if supported) for each of the cells  - For a cell in a set of cells, no more than two DCI scheduling PUSCH for the cell.  The UE monitors SS set(s) for DCI format 0\_3 for a set of cells for the following cases:  - Search space set configuration for DCI format 0\_3 for the set of cells is provided only on the scheduling cell, or;  - Search space set configurations for DCI format 0\_3 for the set of cells with the same *searchSpaceId* are provided on both the scheduling cell and a serving cell in the set of cells with the scheduling cell being not in the set of cells.  - A UE supporting this capability can additionally report *supportOfSearchSpace-r18* to indicate whether the UE supports search space set configurations for DCI format 0\_3 for the set of cells with the same *searchSpaceId* are provided on both the scheduling cell and a serving cell in the set of cells with the scheduling cell being in the set of cells.  The capability signalling comprises the following parameters:  *-* *coScheduledCellSCS-r18* indicates scheduling cell and co-scheduled cells have same SCS and carrier type.  *-* *maxNumberCoScheduledCell-r18* indicates the max number of co-scheduled cells per set of cells supported by UE.  *-* *maxNumberSetsOfCellAcrossPUCCH-Group-r18* indicates the max number of sets of cells supported by UE across PUCCH groups.  *-* *maxNumberSetsOfCellScheduling-r18* indicates the max number of sets of cells supported by UE for a same scheduling cell.  *-* *coScheduledCellIndicationScheme-r18* indicates the supported co-scheduled cell indication schemes.  When multiple values are reported in *coScheduledCellSCS-r18* and if scheduling cell is not included in the set of cells, the UE supports multi-cell PUSCH scheduling by DCI format 0\_3 from one carrier type, indicated in *coScheduledCellSCS-r18*, to another carrier type, indicated in *coScheduledCellSCS-r18*, for the following scheduling cases:  - FR1 licensed TDD to FR1 unlicensed TDD  - FR2-1 to FR2-2  - UE can additionally report *licensed-fdd-tdd-fr1* indicating the support of FR1 licensed FDD from/to FR1 licensed TDD.  NOTE 1: Support of CCS with UL DCI formats 0\_1/0\_2 is according to *crossCarrierScheduling-SameSCS*.  NOTE 2: 480/960 kHz SCS is not applicable to multi-cell scheduling with DCI format 0\_3. | BC | No | N/A | N/A |
| ***multiCellL1-measRTD-greaterThan-CP-r18***  Indicates the capability of simultaneous L1-RSRP measurements for more than one cell when the max RTD among the cells on the same frequency layer or in the same active BWP is larger than CP length of the cell on the frequency layer or in the same active BWP.  A UE supporting this feature shall also indicate support of either *intraFreqL1-MeasConfig-r18, interFreqSSB-L1-MeasWithoutGaps-r18* or *ltm-InterFreqMeasGap-r18.* | BC | No | N/A | N/A |

<Text omitted>

| ***pucch-ConfigForSPS-Multicast-r17***  Indicates whether the UE supports *SPS-PUCCH-AN-List* for multicast HARQ-ACK feedback of all multicast SPS configuration(s), separate from that of SPS unicast configurations.  A UE supporting this feature shall also indicate support of *ack-NACK-FeedbackForSPS-Multicast-r17*. | BC | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***qcl-MultiCellDCI-1-3-r18***  Indicates whether the UE can be configured with *enabledDefaultBeamForMultiCellScheduling* for default QCL assumption for multi-cell scheduling by DCI format 1\_3 for same/different numerologies.  When value *both* is reported, the UE supports this capability for same SCS and for different SCS combination(s) (i.e. *lowScheduling-highScheduled*, *highScheduling-lowScheduled*, *both*) reported for *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*.  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18* and *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*. | BC | No | N/A | N/A |
| ***scellDormancyWithinActiveTime-r16***  Indicates whether the UE supports SCell dormancy indication received on SPCell with DCI format 0\_1/1\_1 sent within the active time as defined in clause 10.3 of TS 38.213 [11]. If the UE indicates the support of this, the UE supports one dormant BWP and at least one non-dormant BWP per carrier. To support more than one non-dormant BWP in a carrier, the UE indicates support of *upto4* in *bwp-SameNumerology* or *upto4* in *bwp-DiffNumerology*. One dormant BWP and one non-dormant BWP are UE specific BWPs even for UEs not supporting *bwp-SameNumerology.* | BC | No | N/A | N/A |

<Text omitted>

| ***type3EnhHARQ-CB-DCI-1-3-r18***  Indicates whether the UE supports feedback of enhanced type 3 HARQ-ACK codebook, triggered by a DCI 1\_3, feedback of a dynamically selected enhanced type 3 HARQ-ACK codebook based on triggering information in DCI 1\_3 and transmission of enhanced type 3 HARQ-ACK codebook using the first or second PUCCH configuration based on PHY priority indication in the triggering DCI (for a UE supporting two HARQ-ACK codebooks / PUCCH config in *simultaneous-2-1-HARQ-ACK-CB-r18*).  This capability signalling comprises the following parameters:  - *numberOfCodebook-r18* indicates the number of enhanced type 3 HARQ-ACK codebooks.  - *maxNumberPUCCH-Trans-r18* indicates the maximum number of actual PUCCH transmissions for type 3 or enhanced type 3 HARQ-ACK codebook feedback within a slot.  The UE only supports feedback of a dynamically selected enhanced type 3 HARQ-ACK codebook based on triggering information in DCI 1\_3 if the UE for *numberOfCodebook-r18* supports more than one enhanced type 3 HARQ-ACK codebook to be configured.  If the UE also reports *enhancedType3-HARQ-CodebookFeedback-r17*, the same value is reported for *numberOfCodebook-r18* and *maxNumberPUCCH-Trans-r18.*  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18* and *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*. | BC | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***type3HARQ-CB-DCI-1-3-r18***  Indicates whether the UE supports feedback of type 3 HARQ-ACK codebook, triggered by a DCI 1\_3 scheduling at least a PDSCH and feedback of type 3 HARQ-ACK codebook, triggered by a DCI 1\_3 without scheduling a PDSCH using a reserved FDRA value.  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18* and *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*. | BC | No | N/A | N/A |
| ***uplinkTxDC-TwoCarrierReport-r16***  Indicates whether the UE supports the uplink Tx Direct Current subcarrier location(s) reporting when configured with uplink CA with two carriers.  It is applicable only for (NG)EN-DC/NE-DC and NR CA where the NR has intra-band uplink CA with two uplink carriers. | BC | No | N/A | N/A |

*Next changes*

#### 4.2.7.7 *FeatureSetUplink* parameters

<Text omitted>

| ***semiStaticHARQ-ACK-CodebookSub-SlotPUCCH-r17***  Indicates whether the UE supports Semi-static (Type 1) HARQ-ACK codebook for sub-slot based PUCCH configuration*.*  A UE supporting this feature shall also indicate support of *semiStaticHARQ-ACK-Codebook* and *multiPUCCH-r16*. | FS | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***simultaneous-2-1-HARQ-ACK-CB-r18***  Indicates whether the UE supports two HARQ-ACK codebooks with different priorities to be simultaneously constructed with the restriction up to one sub-slot based HARQ-ACK codebook. This capability also indicates support of separate PUCCH configuration for different HARQ-ACK codebooks, 2-level priority of HARQ-ACK for dynamically scheduled PDSCH and SPS PDSCH, a DCI format 1\_3 scheduling PDSCH with different HARQ-ACK priorities when only DCI format 0\_3/1\_3 is configured per BWP, separate configuration of parameters *pdsch-HARQ-ACK-Codebook*, *uci-OnPUSCH* and *codeBlockGroupTransmission* for different HARQ-ACK codebooks, maximum number of actual PUCCH transmissions for HARQ-ACK within a slot and intra-UE multiplexing/prioritization of UL overlapping channels/signals with two priority levels for HARQ-ACK.  The supported maximum number of actual PUCCH transmissions for HARQ-ACK within a slot is indicated by *sub-SlotConfig-NCP-r16* for NCP for 2-symbol\*7 sub-slot configuration, and *sub-SlotConfig-ECP-r16* for ECP for 2-symbol\*6 sub-slot configuration. For *sub-SlotConfig-NCP-r16* and *sub-SlotConfig-ECP-r16*,if a UE also supports *twoHARQ-ACK-Codebook-type1-r16*, the UE reports the same values as in *twoHARQ-ACK-Codebook-type1-r16*.  If a UE reports both *multiPUCCH-r16* and this capability, it can support two slot-based HARQ-ACK codebooks, and one slot-based and one-sub-slot-based HARQ-ACK codebooks. If a UE reports this capability but not *multiPUCCH-r16*, it can only support two slot-based HARQ-ACK codebooks.  The number of PUCCHs for CSI reporting per slot is not impacted compared with Rel-15 by introducing the new HARQ-ACK CBs.  *simultaneous-2-1-HARQ-ACK-CB-r18* is applied to the sub-slot HARQ-ACK codebook and only 1 actual PUCCH transmission for HARQ-ACK within a slot for slot-based HARQ-ACK codebook is assumed. It is indicated for 2-symbol\*7 sub-slot configuration. For 7-symbol\*2 sub-slot configuration, the value of *simultaneous-2-1-HARQ-ACK-CB-r18* is {2} for both NCP and ECP cases.  The value indicated in *simultaneous-2-1-HARQ-ACK-CB-r18* has no meaning for "slot-based + slot based".  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18* and *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*. | FS | No | N/A | N/A |
| ***simultaneous-2-2-HARQ-ACK-CB-r18***  Indicates whether the UE supports two subslot based HARQ-ACK codebooks with different priorities to be simultaneously constructed. This capability also indicates support of separate PUCCH configuration for different HARQ-ACK codebooks, 2-level priority of HARQ-ACK for dynamically scheduled PDSCH and SPS PDSCH, a DCI format 1\_3 scheduling PDSCH with different HARQ-ACK priorities when only DCI format 0\_3/1\_3 is configured in USS per BWP, separate configuration of parameters *pdsch-HARQ-ACK-Codebook*, *uci-OnPUSCH* and *codeBlockGroupTransmission* for different HARQ-ACK codebooks, and maximum number of actual PUCCH transmissions for HARQ-ACK within a slot.  The supported maximum number of actual PUCCH transmissions for HARQ-ACK within a slot is indicated by *sub-SlotConfig-NCP-r16* for NCP for 2-symbol\*7 sub-slot configuration, and *sub-SlotConfig-ECP-r16* for ECP for 2-symbol\*6 sub-slot configuration. For *sub-SlotConfig-NCP-r16* and *sub-SlotConfig-ECP-r16*,if a UE also supports *twoHARQ-ACK-Codebook-type2-r16*, the UE reports the same values as in *twoHARQ-ACK-Codebook-type2-r16*.  The number of PUCCHs for CSI reporting per slot is not impacted compared with Rel-15 by introducing the new HARQ-ACK CBs.  *simultaneous-2-2-HARQ-ACK-CB-r18* is applied to the two sub-slot HARQ-ACK codebooks, respectively.  *simultaneous-2-2-HARQ-ACK-CB-r18* is reported for 2-symbol\*7 sub-slot configuration. For 7-symbol\*2 sub-slot configuration, the value of *simultaneous-2-2-HARQ-ACK-CB-r18* is {2} for both NCP and ECP cases.  A UE supporting this feature shall also indicate support of *multiPUCCH-r16* and *simultaneous-2-1-HARQ-ACK-CB-r18*. | FS | No | N/A | N/A |
| ***simultaneousTxSUL-NonSUL***  Indicates whether the UE supports simultaneous transmission of SRS on an SUL/non-SUL carrier and PUSCH/PUCCH/SRS on the other UL carrier in the same cell. The UE supports simultaneous transmission on an SUL band X and a Non-SUL band Y if it sets this capability parameter for both band X and band Y. | FS | No | N/A | N/A |

<Text omitted>

| ***ul-IntraUE-Mux-r16***  Indicates whether the UE supports intra-UE multiplexing/prioritization of overlapping PUCCH/PUCCH and PUCCH/PUSCH with two priority levels in the physical layer. This field includes the following parameters:  - *pusch-PreparationLowPriority-r16* indicates the additional number of symbols needed beyond the PUSCH preparation time for cancelling a low priority UL transmission;  - *pusch-PreparationHighPriority-r16* indicates the additional number of the preparation time needed for the high priority UL transmission that cancels a low priority UL transmission.  The value *sym0* denotes 0 symbol, *sym1* denotes one symbol, and so on. | FS | No | N/A | N/A |
| --- | --- | --- | --- | --- |
| ***ul-IntraUE-MuxEnh-r18***  Indicates whether the UE supports intra-UE multiplexing/prioritization of overlapping PUCCH/PUCCH and PUCCH/PUSCH with two priority levels in physical layer for DCI format 1\_3/0\_3, including  - Configuration of PHY priority level for CG PUSCH and SR, and dynamic indication of priority level for dynamic PUSCH with a single DCI format 0\_3  - Multiplexing/prioritization between UL channels/signals with the same PHY priority level  - Prioritization between UL channels/signals with different PHY priority levels.  The capability signalling comprises the following parameters:  - *pusch-PreparationLowPriority-r18* indicates the additional number of symbols needed beyond the PUSCH preparation time for cancelling a low priority UL transmission. The UE reports the same value as *pusch-PreparationLowPriority-r16* if the UE also supports *ul-IntraUE-Mux-r16*;  - *pusch-PreparationHighPriority-r18* indicates the additional number of symbols of the preparation time needed for the high priority UL transmission that cancels a low priority UL transmission. The UE reports the same value as *pusch-PreparationHighPriority-r16* if the UE also supports *ul-IntraUE-Mux-r16*.  The value *sym0* denotes 0 symbol, *sym1* denotes one symbol, and so on.  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18*, *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*, *multiCell-PUSCH-DCI-0-3-SameSCS-r18*, and *multiCell-PUSCH-DCI-0-3-DiffSCS-r18*. | FS | No | N/A | N/A |

*Next changes*

#### 4.2.7.10 *Phy-Parameters*

<Text omitted>

| ***bwp-SwitchingMultiDormancyCCs-r16***  Indicates whether the UE supports incremental delay for BWP switch processing on additional SCells in DCI based simultaneous dormant BWP switching on multiple SCells as specified in TS 38.133 [5]. The capability signalling comprises of the following:  - *type1-r16* indicates the delay value for type 1 BWP switching delay and has values of {100us, 200us}  - *type2-r16* indicates the delay value for type 2 BWP switching delay and has values of {200us, 400us, 800us, 1000us}  The UE indicating support of this feature shall also support *scellDormancyWithinActiveTime-r16* or *scellDormancyOutsideActiveTime-r16*. | UE | No | No | No |
| --- | --- | --- | --- | --- |
| ***bwp-SwitchingMultiDormancyCC-DCI-0-3-And-1-3-r18***  Indicates whether the UE supports incremental delay for BWP switch processing on additional SCells in DCI based simultaneous dormant BWP switching on multiple SCells while DCI format 0\_3/1\_3 is used as specified in TS 38.133 [5]. The capability signalling comprises the following parameters:  - *type1-r18* indicates the delay value for type 1 BWP switching delay and has values of {100µs, 200µs}  - *type2-r18* indicates the delay value for type 2 BWP switching delay and has values of {200µs, 400µs, 800µs, 1000µs}  A UE supporting this feature shall also indicate support of *scellDormancyWithinActiveTime-DCI-0-3-And-1-3-r18*. | UE | No | No | No |

<Text omitted>

| ***codebookVariantsList-r16***  Indicates the list of *SupportedCSI-RS-Resource* applicable to the codebook types supported by the UE. | UE | No | No | No |
| --- | --- | --- | --- | --- |
| ***configurableType-1A-FieldsForDCI-0-3-And-1-3-r18***  Indicates whether the UE supports Type-1A for 'Antenna port(s)' field for DCI format 1\_3 and Type-1A for 'Antenna port(s)', 'Precoding information and number of layers' and 'SRS resource indicator' fields for DCI format 0\_3.  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18*, *multiCell-PDSCH-DCI-1-3-DiffSCS-r18,* *multiCell-PUSCH-DCI-0-3-SameSCS-r18* or *multiCell-PUSCH-DCI-0-3-DiffSCS-r18*. | UE | No | No | No |

<Text omitted>

| ***fdd-PCellUL-TX-AllUL-Subframe-r16***  Indicates whether the UE configured with *tdm-patternConfig-r16* can be semi-statically configured with LTE UL transmissions in all UL subframes not limited to the reference tdm-pattern (only for type 1 UE) in case of LTE FDD PCell. UE indicating support can configure its LTE FDD PCell with this feature on the band combination which indicates support of either *tdm-restrictionFDD-endc-r16*  or *tdm-restrictionDualTX-FDD-endc-r16*. | UE | No | FDD only | FR1 only |
| --- | --- | --- | --- | --- |
| ***fdra-Type-1-Gty-2-4-8-16-RBs-RIV-DCI-1-3-And-0-3-r18***  Indicates whether the UE supports FDRA Type 1 granularity of 2, 4, 8, or 16 consecutive RBs based RIV for DCI format 0\_3 and FDRA Type 1 granularity of 2, 4, 8, or 16 consecutive RBs based RIV for DCI format 1\_3.  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18*, *multiCell-PDSCH-DCI-1-3-DiffSCS-r18*, *multiCell-PUSCH-DCI-0-3-SameSCS-r18* or *multiCell-PUSCH-DCI-0-3-DiffSCS-r18*. | UE | No | No | No |

<Text omitted>

| ***newBeamIdentifications2PortCSI-RS-r16***  Indicates whether the UE supports 2 port CSI-RS for new beam identification with the same resource counting as in *maxTotalResourcesForOneFreqRange-r16* and *maxTotalResourcesForAcrossFreqRanges-r16*. | UE | No | No | No |
| --- | --- | --- | --- | --- |
| ***nominalRBG-SizeOfConfig-3-FDRA-Type-0-DCI-0-3-r18***  Indicates whether the UE supports nominal RBG size of Configuration 3 for FDRA type 0 for DCI format 0\_3.  A UE supporting this feature shall also indicate support of at least one of *multiCell-PUSCH-DCI-0-3-SameSCS-r18* or *multiCell-PUSCH-DCI-0-3-DiffSCS-r18*. | UE | No | No | No |
| ***nominalRBG-SizeOfConfig-3-FDRA-Type-0-DCI-1-3-r18***  Indicates whether the UE supports nominal RBG size of Configuration 3 for FDRA type 0 for DCI format 1\_3.  A UE supporting this feature shall also indicate support of at least one of *multiCell-PDSCH-DCI-1-3-SameSCS-r18* or *multiCell-PDSCH-DCI-1-3-DiffSCS-r18* | UE | No | No | No |
| ***nzp-CSI-RS-IntefMgmt***  Indicates whether the UE supports interference measurements using NZP CSI-RS. | UE | No | No | No |

*End of changes*