**3GPP TSG-RAN WG2 #131 *R2-25xxxxx***

**Bengaluru, India, 25 - 29 August 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **2** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Introduction of 7MHz channel bandwidth | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | T-Mobile USA, | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | RAN4 asked in their LSs R4-2503017 (R2-2501744) and R4-2508088 to introduce 7MHz channel bandwidth in UE capability signalling. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Channel bandwidth 7 MHz is added to the following UE capability information elements:  In BandNR:   * channelBWs-DL/UL bit value for 7MHz   In FeatureSetDownlinkPerCC:   * extensions for 7 MHz added for supportedBandwidthDL and supportedMinBandwidthDL   In FeatureSetUplinklinkPerCC:   * extensions for 7 MHz added for supportedBandwidthUL and supportedMinBandwidthUL   **Impact Analysis**  Impacted 5G architecture options: NR SA, (NG)EN-DC, NE-DC,NR-DC  Impacted functionality: NR band support  Inter-operability:  If the network is implemented according to the CR and the UE is not, or if the UE is implemented according to the CR and the network is not, there are no interoperability issues. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | 7MHz channel bandwidth cannot be supported and used in UEs and networks. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.3.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **Y** |  | Other core specifications | | | | TS 38.306 CR 1258r2 | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | R2-2502572, R2-2505384 | | | | | | | | |

### 6.3.3 UE capability information elements

<cut>

#### – *FeatureSetDownlinkPerCC*

The IE *FeatureSetDownlinkPerCC* indicates a set of features that the UE supports on the corresponding carrier of one band entry of a band combination.

*FeatureSetDownlinkPerCC* information element

-- ASN1START

-- TAG-FEATURESETDOWNLINKPERCC-START

FeatureSetDownlinkPerCC ::= SEQUENCE {

supportedSubcarrierSpacingDL SubcarrierSpacing,

supportedBandwidthDL SupportedBandwidth,

channelBW-90mhz ENUMERATED {supported} OPTIONAL,

maxNumberMIMO-LayersPDSCH MIMO-LayersDL OPTIONAL,

supportedModulationOrderDL ModulationOrder OPTIONAL

}

FeatureSetDownlinkPerCC-v1620 ::= SEQUENCE {

-- R1 16-2a: Mulit-DCI based multi-TRP

multiDCI-MultiTRP-r16 MultiDCI-MultiTRP-r16 OPTIONAL,

-- R1 16-2b-3: Support of single-DCI based FDMSchemeB

supportFDM-SchemeB-r16 ENUMERATED {supported} OPTIONAL

}

FeatureSetDownlinkPerCC-v1700 ::= SEQUENCE {

supportedMinBandwidthDL-r17 SupportedBandwidth-v1700 OPTIONAL,

broadcastSCell-r17 ENUMERATED {supported} OPTIONAL,

-- R1 33-2g: MIMO layers for multicast PDSCH

maxNumberMIMO-LayersMulticastPDSCH-r17 ENUMERATED {n2, n4, n8} OPTIONAL,

-- R1 33-2h: Dynamic scheduling for multicast for SCell

dynamicMulticastSCell-r17 ENUMERATED {supported} OPTIONAL,

supportedBandwidthDL-v1710 SupportedBandwidth-v1700 OPTIONAL,

-- R4 24-1/24-2/24-3/24-4/24-5

supportedCRS-InterfMitigation-r17 CRS-InterfMitigation-r17 OPTIONAL

}

FeatureSetDownlinkPerCC-v1720 ::= SEQUENCE {

-- R1 33-2j: Supported maximum modulation order used for maximum data rate calculation for multicast PDSCH

maxModulationOrderForMulticastDataRateCalculation-r17 ENUMERATED {qam64, qam256, qam1024} OPTIONAL,

-- R1 33-1-2: FDM-ed unicast PDSCH and group-common PDSCH for broadcast

fdm-BroadcastUnicast-r17 ENUMERATED {supported} OPTIONAL,

-- R1 33-3-2: FDM-ed unicast PDSCH and one group-common PDSCH for multicast

fdm-MulticastUnicast-r17 ENUMERATED {supported} OPTIONAL

}

FeatureSetDownlinkPerCC-v1730 ::= SEQUENCE {

-- R1 33-3-3: Intra-slot TDM-ed unicast PDSCH and group-common PDSCH

intraSlotTDM-UnicastGroupCommonPDSCH-r17 ENUMERATED {yes, no} OPTIONAL,

-- R1 33-5-3: One SPS group-common PDSCH configuration for multicast for SCell

sps-MulticastSCell-r17 ENUMERATED {supported} OPTIONAL,

-- R1 33-5-4: Up to 8 SPS group-common PDSCH configurations per CFR for multicast for SCell

sps-MulticastSCellMultiConfig-r17 INTEGER (1..8) OPTIONAL,

-- R1 33-1-1: Dynamic slot-level repetition for broadcast MTCH

dci-BroadcastWith16Repetitions-r17 ENUMERATED {supported} OPTIONAL

}

FeatureSetDownlinkPerCC-v1780 ::= SEQUENCE {

supportedBandwidthDL-v1780 SupportedBandwidth-v1700 OPTIONAL

}

FeatureSetDownlinkPerCC-v1800 ::= SEQUENCE {

-- R1 40-2-1: Basic feature for multi-DCI based intra-cell Multi-TRP operation with two TA enhancement

multiDCI-IntraCellMultiTRP-TwoTA-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-2-2: Basic feature for multi-DCI based inter-cell Multi-TRP operation with two TA enhancement

multiDCI-InterCellMultiTRP-TwoTA-r18 INTEGER (1..2) OPTIONAL,

-- R1 40-2-6: Rx timing difference larger than CP length

rxTimingDiff-r18 ENUMERATED {supported} OPTIONAL,

-- R1 55-7: Two QCL TypeD for CORESET monitoring in multi-DCI based multi-TRP

multiDCI-MultiTRP-CORESET-Monitoring-r18 ENUMERATED {supported} OPTIONAL,

broadcastNonServingCell-r18 ENUMERATED {supported} OPTIONAL,

-- R4 30-1: Supports scheduling restriction relaxation and measurement restriction relaxation

schedulingMeasurementRelaxation-r18 ENUMERATED {supported} OPTIONAL

}

FeatureSetDownlinkPerCC-v1840 ::= SEQUENCE {

supportedBandwidthDL-v1840 SupportedBandwidth-v1840 OPTIONAL,

supportedMinBandwidthDL-v1840 SupportedBandwidth-v1840 OPTIONAL

}

FeatureSetDownlinkPerCC-v18xy ::= SEQUENCE {

supportedBandwidthDL-v18xy SupportedBandwidth-v18xy OPTIONAL,

supportedMinBandwidthDL-v18xy SupportedBandwidth-v18xy OPTIONAL

}

MultiDCI-MultiTRP-r16 ::= SEQUENCE {

maxNumberCORESET-r16 ENUMERATED {n2, n3, n4, n5},

maxNumberCORESETPerPoolIndex-r16 INTEGER (1..3),

maxNumberUnicastPDSCH-PerPool-r16 ENUMERATED {n1, n2, n3, n4, n7}

}

CRS-InterfMitigation-r17 ::= SEQUENCE {

-- R4 24-1 CRS-IM (Interference Mitigation) in DSS scenario

crs-IM-DSS-15kHzSCS-r17 ENUMERATED {supported} OPTIONAL,

-- R4 24-2 CRS-IM in non-DSS and 15 kHz NR SCS scenario, without the assistance of network signaling on LTE channel bandwidth

crs-IM-nonDSS-15kHzSCS-r17 ENUMERATED {supported} OPTIONAL,

-- R4 24-3 CRS-IM in non-DSS and 15 kHz NR SCS scenario, with the assistance of network signaling on LTE channel bandwidth

crs-IM-nonDSS-NWA-15kHzSCS-r17 ENUMERATED {supported} OPTIONAL,

-- R4 24-4 CRS-IM in non-DSS and 30 kHz NR SCS scenario, without the assistance of network signaling on LTE channel bandwidth

crs-IM-nonDSS-30kHzSCS-r17 ENUMERATED {supported} OPTIONAL,

-- R4 24-5 CRS-IM in non-DSS and 30 kHz NR SCS scenario, with the assistance of network signaling on LTE channel bandwidth

crs-IM-nonDSS-NWA-30kHzSCS-r17 ENUMERATED {supported} OPTIONAL

}

-- TAG-FEATURESETDOWNLINKPERCC-STOP

-- ASN1STOP

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#### – *FeatureSets*

The IE *FeatureSets* is used to provide pools of downlink and uplink features sets. A *FeatureSetCombination* refers to the IDs of the feature set(s) that the UE supports in that *FeatureSetCombination*. The *BandCombination* entries in the *BandCombinationList* then indicate the ID of the *FeatureSetCombination* that the UE supports for that band combination.

The entries in the lists in this IE are identified by their index position. For example, the *FeatureSetUplinkPerCC-Id* = 4 identifies the 4th element in the *featureSetsUplinkPerCC* list.

NOTE: When feature sets (per CC) IEs require extension in future versions of the specification, new versions of the *FeatureSetDownlink*, *FeatureSetUplink*, *FeatureSets*, *FeatureSetDownlinkPerCC* and/or *FeatureSetUplinkPerCC* will be created and instantiated in corresponding new lists in the *FeatureSets* IE. For example, if new capability bits are to be added to the *FeatureSetDownlink*, they will instead be defined in a new *FeatureSetDownlink-rxy* which will be instantiated in a new *featureSetDownlinkList-rxy* list. If a UE indicates in a *FeatureSetCombination* that it supports the *FeatureSetDownlink* with ID #5, it implies that it supports both the features in *FeatureSetDownlink* #5 and *FeatureSetDownlink-rxy* #5 (if present). The number of entries in the new list(s) shall be the same as in the original list(s).

*FeatureSets* information element

-- ASN1START

-- TAG-FEATURESETS-START

FeatureSets ::= SEQUENCE {

featureSetsDownlink SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink OPTIONAL,

featureSetsDownlinkPerCC SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC OPTIONAL,

featureSetsUplink SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink OPTIONAL,

featureSetsUplinkPerCC SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC OPTIONAL,

...,

[[

featureSetsDownlink-v1540 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1540 OPTIONAL,

featureSetsUplink-v1540 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1540 OPTIONAL,

featureSetsUplinkPerCC-v1540 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC-v1540 OPTIONAL

]],

[[

featureSetsDownlink-v15a0 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v15a0 OPTIONAL

]],

[[

featureSetsDownlink-v1610 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1610 OPTIONAL,

featureSetsUplink-v1610 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1610 OPTIONAL,

featureSetDownlinkPerCC-v1620 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v1620 OPTIONAL

]],

[[

featureSetsUplink-v1630 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1630 OPTIONAL

]],

[[

featureSetsUplink-v1640 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1640 OPTIONAL

]],

[[

featureSetsDownlink-v1700 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1700 OPTIONAL,

featureSetsDownlinkPerCC-v1700 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v1700 OPTIONAL,

featureSetsUplink-v1710 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1710 OPTIONAL,

featureSetsUplinkPerCC-v1700 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC-v1700 OPTIONAL

]],

[[

featureSetsDownlink-v1720 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1720 OPTIONAL,

featureSetsDownlinkPerCC-v1720 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v1720 OPTIONAL,

featureSetsUplink-v1720 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1720 OPTIONAL

]],

[[

featureSetsDownlink-v1730 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1730 OPTIONAL,

featureSetsDownlinkPerCC-v1730 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v1730 OPTIONAL

]],

[[

featureSetsDownlinkPerCC-v1780 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v1780 OPTIONAL,

featureSetsUplinkPerCC-v1780 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC-v1780 OPTIONAL

]],

[[

featureSetsDownlink-v1800 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1800 OPTIONAL,

featureSetsDownlinkPerCC-v1800 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v1800 OPTIONAL,

featureSetsUplink-v1800 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1800 OPTIONAL,

featureSetsUplinkPerCC-v1800 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC-v1800 OPTIONAL

]],

[[

featureSetsDownlink-v1830 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1830 OPTIONAL

]],

[[

featureSetsDownlinkPerCC-v1840 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v1840 OPTIONAL,

featureSetsUplinkPerCC-v1840 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC-v1840 OPTIONAL

]],

[[

featureSetsUplink-v1850 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v1850 OPTIONAL,

featureSetsUplinkPerCC-v1850 SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC-v1850 OPTIONAL

]],

[[

featureSetsDownlink-v1860 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v1860 OPTIONAL

]],

featureSetsDownlinkPerCC-v18xy SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetDownlinkPerCC-v18xy OPTIONAL,

featureSetsUplinkPerCC-v18xy SEQUENCE (SIZE (1..maxPerCC-FeatureSets)) OF FeatureSetUplinkPerCC-v18xy OPTIONAL

}

FeatureSets-v15t0 ::= SEQUENCE {

featureSetsDownlink-v15t0 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v15t0 OPTIONAL

}

FeatureSets-v16d0 ::= SEQUENCE {

featureSetsUplink-v16d0 SEQUENCE (SIZE (1..maxUplinkFeatureSets)) OF FeatureSetUplink-v16d0 OPTIONAL

}

FeatureSets-v16k0 ::= SEQUENCE {

featureSetsDownlink-v16k0 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v16k0 OPTIONAL

}

FeatureSets-v17d0 ::= SEQUENCE {

featureSetsDownlink-v17d0 SEQUENCE (SIZE (1..maxDownlinkFeatureSets)) OF FeatureSetDownlink-v17d0 OPTIONAL

}

-- TAG-FEATURESETS-STOP

-- ASN1STOP

<cut>

#### – *FeatureSetUplinkPerCC*

The IE *FeatureSetUplinkPerCC* indicates a set of features that the UE supports on the corresponding carrier of one band entry of a band combination.

*FeatureSetUplinkPerCC* information element

-- ASN1START

-- TAG-FEATURESETUPLINKPERCC-START

FeatureSetUplinkPerCC ::= SEQUENCE {

supportedSubcarrierSpacingUL SubcarrierSpacing,

supportedBandwidthUL SupportedBandwidth,

channelBW-90mhz ENUMERATED {supported} OPTIONAL,

mimo-CB-PUSCH SEQUENCE {

maxNumberMIMO-LayersCB-PUSCH MIMO-LayersUL OPTIONAL,

maxNumberSRS-ResourcePerSet INTEGER (1..2)

} OPTIONAL,

maxNumberMIMO-LayersNonCB-PUSCH MIMO-LayersUL OPTIONAL,

supportedModulationOrderUL ModulationOrder OPTIONAL

}

FeatureSetUplinkPerCC-v1540 ::= SEQUENCE {

mimo-NonCB-PUSCH SEQUENCE {

maxNumberSRS-ResourcePerSet INTEGER (1..4),

maxNumberSimultaneousSRS-ResourceTx INTEGER (1..4)

} OPTIONAL

}

FeatureSetUplinkPerCC-v1700 ::= SEQUENCE {

supportedMinBandwidthUL-r17 SupportedBandwidth-v1700 OPTIONAL,

-- R1 23-3-1-3 FeMIMO: Multi-TRP PUSCH repetition (type B) - non-codebook based

mTRP-PUSCH-RepetitionTypeB-r17 ENUMERATED {n1,n2,n3,n4} OPTIONAL,

-- R1 23-3-1-1 -codebook based Multi-TRP PUSCH repetition (type B)

mTRP-PUSCH-TypeB-CB-r17 ENUMERATED {n1,n2,n4} OPTIONAL,

supportedBandwidthUL-v1710 SupportedBandwidth-v1700 OPTIONAL

}

FeatureSetUplinkPerCC-v1780 ::= SEQUENCE {

supportedBandwidthUL-v1780 SupportedBandwidth-v1700 OPTIONAL

}

FeatureSetUplinkPerCC-v1800 ::= SEQUENCE {

-- R1 40-2-7: Two TAs for multi-DCI STxMP PUSCH+PUSCH

twoPUSCH-MultiDCI-STx2P-TwoTA-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-6-1: Single-DCI based STx2P SDM scheme for PUSCH-codebook

pusch-CB-SingleDCI-STx2P-SDM-r18 SEQUENCE {

maxNumberSRS-ResourcePerSet-r18 ENUMERATED {n1,n2,n4},

maxNumberLayerPerPanel-r18 INTEGER (1..2),

maxNumberNZP-PUSCH-PortsPerSet-r18 ENUMERATED {n1,n2,n4},

maxNumberSRS-AntennaPortsPerSet-r18 ENUMERATED {n1,n2,n4}

} OPTIONAL,

-- R1 40-6-1a: Single-DCI based STx2P SDM scheme for PUSCH-noncodebook

pusch-NonCB-SingleDCI-STx2P-SDM-r18 SEQUENCE {

maxNumberSRS-ResourcePerSet-r18 INTEGER (1..4),

maxNumberLayerPerPanel-r18 INTEGER (1..2),

maxNumberSimulSRS-OneResourcePerSet-r18 INTEGER (1..4),

maxNumberSimulSRS-TwoResourcePerSet-r18 INTEGER (1..8)

} OPTIONAL,

-- R1 40-6-2: Single-DCI based STx2P SFN scheme for PUSCH-codebook

pusch-CB-SingleDCI-STx2P-SFN-r18 SEQUENCE {

maxNumberSRS-ResourcePerSet-r18 ENUMERATED {n1,n2,n4},

maxNumberLayerPerSet-r18 INTEGER (1..2),

maxNumberSRS-AntennaPortsPerSet-r18 ENUMERATED {n1,n2,n4},

maxNumberNZP-PUSCH-PortsPerSet-r18 ENUMERATED {n1,n2,n4}

} OPTIONAL,

-- R1 40-6-2a: Single-DCI based STx2P SFN scheme for PUSCH-noncodebook

pusch-NonCB-SingleDCI-STx2P-SFN-r18 SEQUENCE {

maxNumberSRS-ResourcePerSet-r18 INTEGER (1..4),

maxNumberLayerPerSet-r18 INTEGER (1..2),

maxNumberSimulSRS-OneResourcePerSet-r18 INTEGER (1..4),

maxNumberSimulSRS-TwoResourcePerSet-r18 INTEGER (1..8)

} OPTIONAL,

-- R1 40-6-3a: codebook multi-DCI based STx2P PUSCH+PUSCH for DG+DG

twoPUSCH-CB-MultiDCI-STx2P-DG-DG-r18 SEQUENCE {

maxNumberSRS-ResourcePerSet-r18 ENUMERATED {n1, n2, n4},

maxNumberLayerOverlapping-r18 INTEGER (1..2),

maxNumberNZP-PUSCH-Overlapping-r18 ENUMERATED {n1, n2, n4},

maxNumberPUSCH-PerCORESET-PerSlot-r18 SEQUENCE {

scs-60kHz-r18 ENUMERATED {n1,n2,n3,n4,n7} OPTIONAL,

scs-120kHz-r18 ENUMERATED {n1,n2,n3,n4,n7} OPTIONAL

} OPTIONAL,

maxNumberTotalLayerOverlapping-r18 INTEGER (2..4),

maxNumberSRS-AntennaPortsPerSet-r18 ENUMERATED {n1,n2,n4}

} OPTIONAL,

-- R1 40-6-3b: Noncodebook multi-DCI based STx2P PUSCH+PUSCH for DG+DG

twoPUSCH-NonCB-MultiDCI-STx2P-DG-DG-r18 SEQUENCE {

maxNumberSRS-ResourcePerSet-r18 INTEGER (1..4),

maxNumberLayerOverlapping-r18 INTEGER (1..2),

maxNumberSimulSRS-ResourcePerSet-r18 INTEGER (1..4),

maxNumberPUSCH-PerCORESET-PerSlot-r18 SEQUENCE {

scs-60kHz-r18 ENUMERATED {n1,n2,n3,n4,n7} OPTIONAL,

scs-120kHz-r18 ENUMERATED {n1,n2,n3,n4,n7} OPTIONAL

} OPTIONAL,

maxNumberTotalLayerOverlapping-r18 INTEGER (2..4)

} OPTIONAL,

-- R1 40-6-6: Out-of-order operation for multi-DCI based STx2P PUSCH+PUSCH

twoPUSCH-MultiDCI-STx2P-OutOfOrder-r18 ENUMERATED {supported} OPTIONAL,

codebookParameter8TxPUSCH-r18 SEQUENCE {

-- R1 40-7-1: Basic features for Codebook-based 8Tx PUSCH

codebook-8TxBasic-r18 SEQUENCE {

maxNumberPUSCH-MIMO-Layer-r18 INTEGER (1..8),

maxNumberSRS-Resource-r18 INTEGER (1..2),

srs-8TxPorts-r18 ENUMERATED {noTDM, both}

},

-- R1 40-7-1a: Codebook-based 8Tx PUSCH-codebook1

codebook1-8TxPUSCH-r18 SEQUENCE {

codebookN1N4-r18 ENUMERATED {ng1n4n1,ng1n2n2,both} OPTIONAL,

srs-8TxPorts-r18 ENUMERATED {noTDM, both}

},

-- R1 40-7-1b: Codebook-based 8Tx PUSCH-codebook2

codebook2-8TxPUSCH-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-7-1c: Codebook-based 8Tx PUSCH-codebook3

codebook3-8TxPUSCH-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-7-1d: Codebook-based 8Tx PUSCH-codebook4

codebook4-8TxPUSCH-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-7-1e: UL full power transmission mode 0

ul-FullPwrTransMode0-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-7-1f: UL full power transmission mode 1

ul-FullPwrTransMode1-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-7-1g: UL full power transmission mode 2 with 1/2/4 resources

ul-FullPwrTransMode2-r18 ENUMERATED {n1,n2,n4} OPTIONAL,

-- R1 40-7-1g-1: SRS resources for UL full power transmission mode 2

ul-SRS-TransMode2-r18 BIT STRING (SIZE(3)) OPTIONAL,

-- R1 40-7-1g-2: TPMI group(s) which delivers full power for codebook2

tpmi-FullPwrCodebook2-r18 ENUMERATED {first, second} OPTIONAL

} OPTIONAL,

-- R1 40-7-2: Basic features for Non-Codebook-based 8Tx PUSCH

nonCodebook-8TxPUSCH-r18 SEQUENCE {

maxNumberPUSCH-MIMO-Layer-r18 INTEGER (1..8),

maxNumberSRS-Resource-r18 INTEGER (1..8),

maxNumberSimultaneousSRS-r18 INTEGER (1..8)

} OPTIONAL,

-- R1 40-7-2a: Association between CSI-RS and SRS for non-codebook case

nonCodebook-CSI-RS-SRS-r18 ENUMERATED {supported} OPTIONAL,

-- R1 40-7-3: CBG based 2 CWs PUSCH with rank >4

cgb-2CW-PUSCH-r18 ENUMERATED {supported} OPTIONAL

}

FeatureSetUplinkPerCC-v1840 ::= SEQUENCE {

supportedBandwidthUL-v1840 SupportedBandwidth-v1840 OPTIONAL,

supportedMinBandwidthUL-v1840 SupportedBandwidth-v1840 OPTIONAL

}

FeatureSetUplinkPerCC-v1850 ::= SEQUENCE {

-- R1 40-6-3a-1: UE STxMP processing capability for codebook

twoPUSCH-CB-MultiDCI-STx2P-AdditionalTime-r18 CHOICE {

scs-60kHz-r18 ENUMERATED {sym1, sym4, sym8, sym16},

scs-120kHz-r18 ENUMERATED {sym4, sym8, sym16, sym32},

scs-480kHz-r18 ENUMERATED {sym16, sym32, sym64, sym128},

scs-960kHz-r18 ENUMERATED {sym32, sym64, sym128,sym256}

} OPTIONAL,

-- R1 40-6-3b-2: UE STxMP processing capability for non-codebook

twoPUSCH-NonCB-MultiDCI-STx2P-AdditionalTime-r18 CHOICE {

scs-60kHz-r18 ENUMERATED {sym1, sym4, sym8, sym16},

scs-120kHz-r18 ENUMERATED {sym4, sym8, sym16, sym32},

scs-480kHz-r18 ENUMERATED {sym16, sym32, sym64, sym128},

scs-960kHz-r18 ENUMERATED {sym32, sym64, sym128,sym256}

} OPTIONAL

}

FeatureSetUplinkPerCC-v18xy ::= SEQUENCE {

supportedBandwidthUL-v18xy SupportedBandwidth-v18xy OPTIONAL,

supportedMinBandwidthUL-v18xy SupportedBandwidth-v18xy OPTIONAL

}

-- TAG-FEATURESETUPLINKPERCC-STOP

-- ASN1STOP

<cut>

#### – *SupportedBandwidth*

The IE *SupportedBandwidth* is used to indicate the channel bandwidth supported by the UE on one carrier of a band of a band combination.

*SupportedBandwidth* information element

-- ASN1START

-- TAG-SUPPORTEDBANDWIDTH-START

SupportedBandwidth ::= CHOICE {

fr1 ENUMERATED {mhz5, mhz10, mhz15, mhz20, mhz25, mhz30, mhz40, mhz50, mhz60, mhz80, mhz100},

fr2 ENUMERATED {mhz50, mhz100, mhz200, mhz400}

}

SupportedBandwidth-v1700 ::= CHOICE {

fr1-r17 ENUMERATED {mhz5, mhz10, mhz15, mhz20, mhz25, mhz30, mhz35, mhz40, mhz45, mhz50, mhz60, mhz70, mhz80, mhz90, mhz100},

fr2-r17 ENUMERATED {mhz50, mhz100, mhz200, mhz400, mhz800, mhz1600, mhz2000}

}

SupportedBandwidth-v1840 ::= ENUMERATED {mhz3}

SupportedBandwidth-v18xy ::= ENUMERATED {mhz7}

-- TAG-SUPPORTEDBANDWIDTH-STOP

-- ASN1STOP

<cut>