ARIB STD-T120-38.306 V16.11.0

NR; User Equipment (UE) radio access capabilities

(Release 16)

Refer to “Industrial Property Rights (IPR)” in the preface of ARIB STD-T120 for Related Industrial Property Rights. Refer to “Notice” in the preface of ARIB STD-T120 for Copyrights.

3GPP TS 38.306 V16.11.0 (2022-12)

Technical Specification

3rd Generation Partnership Project;
Technical Specification Group Radio Access Network;
NR;
User Equipment (UE) radio access capabilities
(Release 16)

The present document has been developed within the 3rd Generation Partnership Project (3GPP TM) and may be further elaborated for the purposes of 3GPP.
The present document has not been subject to any approval process by the 3GPP Organizational Partners and shall not be implemented.
This Specification is provided for future development work within 3GPP only. The Organizational Partners accept no liability for any use of this Specification.
Specifications and Reports for implementation of the 3GPP TM system should be obtained via the 3GPP Organizational Partners' Publications Offices.

3GPP

Postal address

3GPP support office address

650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet

http://www.3gpp.org

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© 2022, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
All rights reserved.

UMTS™ is a Trade Mark of ETSI registered for the benefit of its members
3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners
LTE™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners
GSM® and the GSM logo are registered and owned by the GSM Association

Contents

Foreword....5
1 Scope....6
2 References....6
3 Definitions, symbols and abbreviations....7
3.1 Definitions....7
3.2 Symbols....7
3.3 Abbreviations....7
4 UE radio access capability parameters....8
4.1 Supported max data rate....8
4.1.1 General....8
4.1.2 Supported max data rate for DL/UL....8
4.1.3 Void....9
4.1.4 Total layer 2 buffer size for DL/UL....9
4.1.5 Supported max data rate for SL....10
4.1.6 Total layer 2 buffer size for NR SL....11
4.2 UE Capability Parameters....11
4.2.1 Introduction....11
4.2.2 General parameters....13
4.2.3 SDAP Parameters....15
4.2.4 PDCP Parameters....16
4.2.5 RLC parameters....18
4.2.6 MAC parameters....19
4.2.7 Physical layer parameters....23
4.2.7.1 *BandCombinationList* parameters....23
4.2.7.2 *BandNR parameters*....29
4.2.7.2a *SharedSpectrumChAccessParamsPerBand*....51
4.2.7.3 *CA-ParametersEUTRA*....56
4.2.7.4 *CA-ParametersNR*....57
4.2.7.5 *FeatureSetDownlink* parameters....69
4.2.7.6 *FeatureSetDownlinkPerCC* parameters....74
4.2.7.7 *FeatureSetUplink* parameters....77
4.2.7.8 *FeatureSetUplinkPerCC* parameters....87
4.2.7.9 *MRDC-Parameters*....90
4.2.7.10 *Phy-Parameters*....94
4.2.7.11 Other PHY parameters....108
4.2.7.12 *NRDC-Parameters*....111
4.2.7.13 *CarrierAggregationVariant*....112
4.2.7.14 *Phy-ParametersSharedSpectrumChAccess*....113
4.2.8 Void....115
4.2.9 *MeasAndMobParameters*....116
4.2.9a MeasAndMobParametersMRDC....122
4.2.10 Inter-RAT parameters....123
4.2.10.1 Void....123
4.2.10.2 Void....123
4.2.11 Void....123
4.2.12 Void....123
4.2.13 IMS Parameters....123
4.2.14 RRC buffer size....124
4.2.15 IAB Parameters....124
4.2.15.1 Mandatory IAB-MT features....124
4.2.15.2 General Parameters....130
4.2.15.3 SDAP Parameters....130
4.2.15.4 PDCP Parameters....130
4.2.15.5 BAP Parameters....130
4.2.15.6 MAC Parameters....130
4.2.15.7 Physical layer parameters....131

4.2.15.7.1 BandNR parameters ... 131
4.2.15.7.2 Phy-Parameters ... 131
4.2.15.8 MeasAndMobParameters Parameters ... 132
4.2.15.9 MR-DC Parameters ... 132
4.2.16 Sidelink Parameters ... 132
4.2.16.1 Sidelink Parameters in NR ... 132
4.2.16.1.1 Sidelink General Parameters ... 132
4.2.16.1.2 Sidelink PDCP Parameters ... 132
4.2.16.1.3 Sidelink RLC Parameters ... 133
4.2.16.1.4 Sidelink MAC Parameters ... 133
4.2.16.1.5 Other PHY parameters ... 133
4.2.16.1.6 *BandSidelink* Parameters ... 134
4.2.16.1.7 *BandCombinationListSidelinkEUTRA-NR* Parameters ... 140
4.2.16.2 Sidelink Parameters in E-UTRA ... 140
4.2.16.2.1 *BandSideLinkEUTRA* parameters ... 141
4.2.17 SON parameters ... 141
4.2.18 UE-based performance measurement parameters ... 142
4.2.19 High speed parameters ... 143

5 Optional features without UE radio access capability parameters ... 143
5.1 PWS features ... 143
5.2 UE receiver features ... 144
5.3 RRC connection ... 144
5.4 Other features ... 144
5.5 Sidelink Features ... 144
5.6 RRM measurement features ... 144
5.7 MDT and SON features ... 145

6 Conditionally mandatory features without UE radio access capability parameters ... 145

7 Void ... 145

8 UE Capability Constraints ... 145

Annex A (normative): Differentiation of capabilities ... 147

A.1: TDD/FDD differentiation of capabilities in TDD-FDD CA ... 147

A.2: FR1/FR2 differentiation of capabilities in FR1-FR2 CA ... 148

A.3: TDD/FDD differentiation of capabilities for sidelink ... 149

A.4: Sidelink capabilities applicable to Uu and PC5 ... 150

A.5: General differentiation of capabilities in Cross-Carrier operation ... 151

Annex B (informative): UE capability indication for UE capabilities with both FDD/TDD and FR1/FR2 differentiations ... 152

Annex C (informative): Change history ... 154

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document defines the NR UE Radio Access Capability Parameters.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception Part 1: Range 1 Standalone".

[3] 3GPP TS 38.101-2: "NR; User Equipment (UE) radio transmission and reception Part 2: Range 2 Standalone".

[4] 3GPP TS 38.101-3: "NR; User Equipment (UE) radio transmission and reception Part 3: Range 1 and Range 2 Interworking operation with other radios".

[5] 3GPP TS 38.133: "NR; Requirements for support of radio resource management".

[6] 3GPP TS 38.211: "NR; Physical channels and modulation".

[7] 3GPP TS 37.340: "Evolved Universal Terrestrial Radio Access (E-UTRA) and NR Multi-connectivity".

[8] 3GPP TS 38.321: "NR; Medium Access Control (MAC) protocol specification".

[9] 3GPP TS 38.331: "NR; Radio Resource Control (RRC) protocol specification".

[10] 3GPP TS 38.212: "NR; Multiplexing and channel coding".

[11] 3GPP TS 38.213: "NR; Physical layer procedures for control".

[12] 3GPP TS 38.214: "NR; Physical layer procedures for data".

[13] 3GPP TS 38.215: "NR; Physical layer measurements".

[14] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA) radio transmission and reception".

[15] 3GPP TS 36.306: "Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE) radio access capabilities".

[16] 3GPP TS 38.323: "NR; Packet Data Convergence Protocol (PDCP) specification".

[17] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA) Radio Resource Control (RRC); Protocol Specification".

[18] 3GPP TS 38.101-4: "NR; User Equipment (UE) radio transmission and reception Part 4: Performance requirements".

[19] 3GPP TS 36.213: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures".

[20] 3GPP TS 25.306: "UE radio access capabilities".

[21] 3GPP TS 38.304: "User Equipment (UE) procedures in Idle mode and RRC Inactive state".

[22] 3GPP TS 37.355: " LTE Positioning Protocol (LPP)".

[23] 3GPP TS 38.340: "NR; Backhaul Adaptation Protocol (BAP) specification".

[24] 3GPP TR 38.822: "NR; User Equipment (UE) feature list".

[25] 3GPP TS 37.324: "E-UTRA and NR; Service Data Adaptation Protocol (SDAP) specification"

[26] 3GPP TS 38.314: "NR; Layer 2 Measurements".

[27] 3GPP TS 36.133: "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for support of radio resource management".

[28] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage-2".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

Fallback band combination: A Uu band combination that would result from another Uu band combination (parent band combination) by releasing at least one SCell or uplink configuration of SCell, or SCG, or SUL. A PC5 band combination that would result from another PC5 band combination (parent band combination) by releasing at least one sidelink carrier. An intra-band non-contiguous band combination is not considered to be a fallback band combination of an intra-band contiguous band combination. A fallback band combination supports the same channel bandwidth(s) for each carrier as its parent band combination(s).

Fallback per band feature set: A feature set per band that has same or lower capabilities than the reported capabilities from the reported feature set per band for a given band.

Fallback per CC feature set: A feature set per CC that has same or lower capabilities than the capabilities of UE (e.g. supported MIMO layers, BW, modulation order) while keeping the numerology the same from the reported feature set per CC for a given carrier per band.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

MaxDLDataRate: Maximum DL data rate
MaxDLDataRate_MN: Maximum DL data rate in the MN
MaxDLDataRate_SN: Maximum DL data rate in the SN
MaxULDataRate: Maximum UL data rate
MaxSLtxDataRate: Maximum SL data rate in transmission
MaxSLrxDataRate: Maximum SL data rate in reception

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 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 TR 21.905 [1].

BAP Backhaul Adaptation Protocol
BC Band Combination
BT Bluetooth

DAPS	Dual Active Protocol Stack
DL	Downlink
EHC	Ethernet Header Compression
FS	Feature Set
FSPC	Feature Set Per Component-carrier
IAB-MT	Integrated Access Backhaul Mobile Termination
MAC	Medium Access Control
MCG	Master Cell Group
MN	Master Node
MR-DC	Multi-RAT Dual Connectivity
PDCP	Packet Data Convergence Protocol
RLC	Radio Link Control
RTT	Round Trip Time
SCG	Secondary Cell Group
SDAP	Service Data Adaptation Protocol
SN	Secondary Node
UL	Uplink
WLAN	Wireless Local Area Network

4 UE radio access capability parameters

4.1 Supported max data rate

4.1.1 General

The DL, UL and SL max data rate supported by the UE is calculated by band or band combinations supported by the UE. A UE supporting NR (NR SA, MR-DC) shall support the calculated DL and UL max data rate defined in 4.1.2. A UE supporting NR sidelink communication shall support the calculated SL max data rate defined in 4.1.5.

4.1.2 Supported max data rate for DL/UL

For NR, the approximate data rate for a given number of aggregated carriers in a band or band combination is computed as follows.

$$\text{data rate (in Mbps)} = 10^{-6} \cdot \sum_{j=1}^{J} \left(v_{Layers}^{(j)} \cdot Q_m^{(j)} \cdot f^{(j)} \cdot R_{\max} \cdot \frac{N_{PRB}^{BW(j),\mu} \cdot 12}{T_s^{\mu}} \cdot \left(1 - OH^{(j)}\right) \right)$$

wherein

J is the number of aggregated component carriers in a band or band combination
R_{max} = 948/1024
For the j-th CC,

$v_{Layers}^{(j)}$ is the maximum number of supported layers given by higher layer parameter *maxNumberMIMO-LayersPDSCH* for downlink and maximum of higher layer parameters *maxNumberMIMO-LayersCB-PUSCH* and *maxNumberMIMO-LayersNonCB-PUSCH* for uplink.

$Q_m^{(j)}$ is the maximum supported modulation order given by higher layer parameter *supportedModulationOrderDL* for downlink and higher layer parameter *supportedModulationOrderUL* for uplink.

$f^{(j)}$ is the scaling factor given by higher layer parameter *scalingFactor* and can take the values 1, 0.8, 0.75, and 0.4.

μ is the numerology (as defined in TS 38.211 [6])

T_s^{μ} is the average OFDM symbol duration in a subframe for numerology μ, i.e. $T_s^{\mu} = \frac{10^{-3}}{14 \cdot 2^{\mu}}$. Note that normal cyclic prefix is assumed.

$N_{PRB}^{BW(j),\mu}$ is the maximum RB allocation in bandwidth $BW^{(j)}$ with numerology μ, as defined in 5.3 TS 38.101-1 [2] and 5.3 TS 38.101-2 [3], where $BW^{(j)}$ is the UE supported maximum bandwidth in the given band or band combination.

$OH^{(j)}$ is the overhead and takes the following values

0.14, for frequency range FR1 for DL
0.18, for frequency range FR2 for DL
0.08, for frequency range FR1 for UL
0.10, for frequency range FR2 for UL

NOTE 1: Only one of the UL or SUL carriers (the one with the higher data rate) is counted for a cell operating SUL.

NOTE 2: For UL Tx switching between carriers, only the supported MIMO layer combination across carriers that results in the highest combined data rate is counted for the carriers in the supported maximum UL data rate.

The approximate maximum data rate can be computed as the maximum of the approximate data rates computed using the above formula for each of the supported band or band combinations.

For single carrier NR SA operation, the UE shall support a data rate for the carrier that is no smaller than the data rate computed using the above formula, with $J = 1\ CC$ and component $v_{Layers}^{(j)} \cdot Q_m^{(j)} \cdot f^{(j)}$ is no smaller than 4.

NOTE 3: As an example, the value 4 in the component above can correspond to $v_{Layers}^{(j)} = 1$, $Q_m^{(j)} = 4$ and $f^{(j)} = 1$.

For EUTRA in case of MR-DC, the approximate data rate for a given number of aggregated carriers in a band or band combination is computed as follows.

Data rate (in Mbps) = $10^{-3} \cdot \sum_{j=1}^{J} TBS_j$

wherein

J is the number of aggregated EUTRA component carriers in MR-DC band combination

TBS_j is the total maximum number of DL-SCH transport block bits received or the total maximum number of UL-SCH transport block bits transmitted, within a 1ms TTI for j-th CC, as derived from TS36.213 [19] based on the UE supported maximum MIMO layers for the j-th CC, and based on the maximum modulation order for the j-th CC and number of PRBs based on the bandwidth of the j-th CC according to indicated UE capabilities.

The approximate maximum data rate can be computed as the maximum of the approximate data rates computed using the above formula for each of the supported band or band combinations.

For MR-DC, the approximate maximum data rate is computed as the sum of the approximate maximum data rates from NR and EUTRA.

4.1.3 Void

4.1.4 Total layer 2 buffer size for DL/UL

The total layer 2 buffer size is defined as the sum of the number of bytes that the UE is capable of storing in the RLC transmission windows and RLC reception and reassembly windows and also in PDCP reordering windows for all radio bearers.

The required total layer 2 buffer size in MR-DC and NR-DC is the maximum value of the calculated values based on the following equations:

- *MaxULDataRate_MN * RLCRTT_MN + MaxULDataRate_SN * RLCRTT_SN + MaxDLDataRate_SN * RLCRTT_SN + MaxDLDataRate_MN * (RLCRTT_SN + X2/Xn delay + Queuing in SN)*
- *MaxULDataRate_MN * RLCRTT_MN + MaxULDataRate_SN * RLCRTT_SN + MaxDLDataRate_MN * RLCRTT_MN + MaxDLDataRate_SN * (RLCRTT_MN + X2/Xn delay + Queuing in MN)*

Otherwise it is calculated by *MaxDLDataRate * RLC RTT + MaxULDataRate * RLC RTT*.

NOTE: Additional L2 buffer required for preprocessing of data is not taken into account in above formula.

The required total layer 2 buffer size is determined as the maximum total layer 2 buffer size of all the calculated ones for each band combination and the applicable Feature Set combination in the supported MR-DC or NR band combinations. The RLC RTT for NR cell group corresponds to the smallest SCS numerology supported in the band combination and the applicable Feature Set combination.

wherein

X2/Xn delay + Queuing in SN = 25ms if SCG is NR, and 55ms if SCG is EUTRA

X2/Xn delay + Queuing in MN = 25ms if MCG is NR, and 55ms if MCG is EUTRA

RLC RTT for EUTRA cell group = 75ms

RLC RTT for NR cell group is defined in Table 4.1.4-1

Table 4.1.4-1: RLC RTT for NR cell group per SCS

SCS (kHz)	RLC RTT (ms)
15KHz	50
30KHz	40
60KHz	30
120KHz	20

4.1.5 Supported max data rate for SL

For NR sidelink, the approximate data rate is computed as follows.

$$\text{data rate (in Mbps)} = 10^{-6} \cdot v_{Layers} \cdot Q_m \cdot f \cdot R_{max} \cdot \frac{N_{PRB}^{BW,\mu} \cdot 12}{T_s^{\mu}} \cdot (1 - OH)$$

wherein

R_{max} = 948/1024,
v_{Layers} is the the maximum number of supported layers for sidelink transmission (or reception) given by UE capability on supporting rank 2 PSSCH transmission and higher layer parameter *rankTwoReception*,
Q_m is the maximum supported modulation order between 6 or 8 given by higher layer parameter *sl-Tx-256QAM* and *sl-Rx-256QAM*,
f is the scaling factor for sidelink transmission and reception given by higher layer parameter *scalingFactorTxSidelink* and *scalingFactorRxSidelink* respectively, as specified in TS 36.331 [17] and TS 38.331 [9], and can take the values 1, 0.8, 0.75, and 0.4.
μ is the numerology (as defined in TS 38.211 [6])
T_s^{μ} is the average OFDM symbol duration in a subframe for numerology μ, i.e. $T_s^{\mu} = \frac{10^{-3}}{14 \cdot 2^{\mu}}$. Note that normal cyclic prefix is assumed.
$N_{PRB}^{BW,\mu}$ is the maximum possible RB allocation in bandwidth BW for PSSCH, where BW is the UE supported maximum bandwidth in the given band or band combination,
OH is the overhead and takes the following values

0.217, for frequency range FR1 for SL
0.25, for frequency range FR2 for SL

4.1.6 Total layer 2 buffer size for NR SL

The total layer 2 buffer size for NR sidelink communication is defined as the sum of the number of bytes that the UE is capable of storing in the RLC transmission windows and RLC reception and reassembly windows and also in PDCP reordering windows for all radio bearers for NR sidelink communication.

The required total layer 2 buffer size for NR sidelink communication is the maximum value of the calculated values based on the following equations:

*MaxSLtxDataRate * RLC RTT + MaxSLrxDataRate * RLC RTT*.

NOTE: Additional L2 buffer required for preprocessing of data is not taken into account in above formula.

The required total layer 2 buffer size for NR sidelink communication is determined as the maximum total layer 2 buffer size of all the calculated ones for each band combination and the applicable Feature Set combination in the supported NR sidelink band combinations. The RLC RTT for NR sidelink communication corresponds to the smallest SCS numerology supported in the band combination and the applicable Feature Set combination.

wherein

RLC RTT for NR sidelink communication is defined in Table 4.1.6-1

Table 4.1.6-1: RLC RTT for NR sidelink communication per SCS

SCS (kHz)	RLC RTT (ms)
15KHz	200
30KHz	100
60KHz	50
120KHz	25

4.2 UE Capability Parameters

4.2.1 Introduction

The following clauses define the UE radio access capability parameters. Only parameters for which there is the possibility for UEs to signal different values are considered as UE radio access capability parameters. Therefore, mandatory features without capability parameters that are the same for all UEs are not listed here.

The network needs to respect the signalled UE radio access capability parameters when configuring the UE and when scheduling the UE.

For capabilities that required to be set consistently for all FDD-FR1 bands (i.e. capabilities that are supposed to be per UE), the UE shall also set capability values for all SUL bands with same values for FDD-FR1 bands if SUL band is supported by the UE.

The UE may support different functionalities between FDD and TDD, and/or between FR1 and FR2. The UE shall indicate the UE capabilities as follows. In the table of UE capability parameter in subsequent clauses, "Yes" in the column by "FDD-TDD DIFF" and "FR1-FR2 DIFF" indicates the UE capability field can have a different value for between FDD and TDD or between FR1 and FR2 and "No" indicates if it cannot. Regarding to the per UE capabilities that are FDD/TDD differentiated(i.e. capabilities indicated as "Yes" in the column by "FDD-TDD DIFF"), the corresponding capabilities indicated by the FDD capability is applied to SUL if SUL band is supported by the UE. "FD" in the column indicates to refer the associated field description. "FR1 only" or "FR2 only" in the column indicates the associated feature is only supported in FR1 or FR2 and "TDD only" indicates the associated feature is only supported in TDD and not applicable to SUL carriers. "N/A" in the column indicates it is not applicable to the feature (e,g. the signalling supports the UE to have different values between FDD and TDD or between FR1 and FR2).

1> set all fields of UE-NR/MRDC-Capability except fdd-Add-UE-NR/MRDC/Sidelink-Capabilities, tdd-Add-UE-NR/MRDC/Sidelink-Capabilities, fr1-Add-UE-NR/MRDC-Capabilities and fr2-Add-UE-NR/MRDC-Capabilities, to include the values applicable for all duplex mode(s) and frequency range(s) that the UE supports;

1> if UE supports both FDD (or SUL) and TDD and if (some of) the UE capability fields have a different value for FDD (or SUL) and TDD

2> if for FDD (and, if the UE supports SUL, for SUL), the UE supports additional functionality compared to what is indicated by the previous fields of UE-NR/MRDC-Capability/SidelinkParameters:

3> include field fdd-Add-UE-NR/MRDC/Sidelink-Capabilities and set it to include fields reflecting the additional functionality applicable for FDD;

2> if for TDD, the UE supports additional functionality compared to what is indicated by the previous fields of UE-NR/MRDC-Capability/SidelinkParameters:

3> include field tdd-Add-UE-NR/MRDC/Sidelink-Capabilities and set it to include fields reflecting the additional functionality applicable for TDD;

1> if UE supports both FR1 and FR2 and if (some of) the UE capability fields have a different value for FR1 and FR2:

2> if for FR1, the UE supports additional functionality compared to what is indicated by the previous fields of UE-NR/MRDC-Capability:

3> include field fr1-Add-UE-NR/MRDC-Capabilities and set it to include fields reflecting the additional functionality applicable for FR1;

2> if for FR2, the UE supports additional functionality compared to what is indicated by the previous fields of UE-NR/MRDC-Capability:

3> include field fr2-Add-UE-NR/MRDC-Capabilities and set it to include fields reflecting the additional functionality applicable for FR2;

NOTE 1: The fields which indicate "shall be set to 1" or "shall be set to *supported*" in the following tables means these features are purely mandatory and are assumed they are the same as mandatory without capability signalling.

NOTE 2: For the case where the UE is allowed to support different functionality between FDD and TDD and between FR1 and FR2 according to the specification, the UE capability indication is clarified in Annex B.

For optional features, the UE radio access capability parameter indicates whether the feature has been implemented and successfully tested. For mandatory features with the UE radio access capability parameter, the parameter indicates whether the feature has been successfully tested. In the table of UE capability parameter in subsequent clauses, "Yes" in the column by "M" indicates the associated feature is mandatory and "No" indicates the associated feature is optional. "CY" in the column indicates the associated feature is conditional mandatory and the condition is described in the field description and the associated feature is considered mandatory with capability parameter, when the described condition is satisfied. "FD" in the column indicates to refer the associated field description. Some parameters in subsequent clauses are not related to UE features and in the case, "N/A" is indicated in the column.

UE capability parameters have hierarchical structure. In the table of UE capability parameter in subsequent clauses, "Per" indicates the level the associated parameter is included. "UE" in the column indicates the associated parameter is signalled per UE, "Band" indicates it is signalled per band, "BC" indicates it is signalled per band combination, "FS" indicates it is signalled per feature set (per band per band combination), "FSPC" indicates it is signalled per feature set per component carrier (per CC per band per band combination), and "FD" in the column indicates to refer the associated field description.

4.2.2 General parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
accessStratumRelease Indicates the access stratum release the UE supports as specified in TS 38.331 [9].	UE	Yes	No	No
delayBudgetReporting Indicates whether the UE supports delay budget reporting as specified in TS 38.331 [9].	UE	No	No	No
dl-DedicatedMessageSegmentation-r16 Indicates whether the UE supports reception of segmented DL RRC messages.	UE	No	No	No
drx-Preference-r16 Indicates whether the UE supports providing its preference of a cell group on DRX parameters for power saving in RRC_CONNECTED, as specified in TS 38.331 [9].	UE	No	No	No
inactiveState Indicates whether the UE supports RRC_INACTIVE as specified in TS 38.331 [9].	UE	Yes	No	No
inDeviceCoexInd-r16 Indicates whether the UE supports IDC (In-Device Coexistence) assistance information as specified in TS 38.331 [9].	UE	No	No	No
maxBW-Preference-r16 Indicates whether the UE supports providing its preference of a cell group on the maximum aggregated bandwidth for power saving in RRC_CONNECTED, as specified in TS 38.331 [9].	UE	No	No	Yes
maxCC-Preference-r16 Indicates whether the UE supports providing its preference of a cell group on the maximum number of secondary component carriers for power saving in RRC_CONNECTED, as specified in TS 38.331 [9].	UE	No	No	No
maxMIMO-LayerPreference-r16 Indicates whether the UE supports providing its preference of a cell group on the maximum number of MIMO layers for power saving in RRC_CONNECTED, as specified in TS 38.331 [9].	UE	No	No	Yes
mcgRLF-RecoveryViaSCG-r16 Indicates whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported) as specified in TS 38.331[9].	UE	No	No	No
minSchedulingOffsetPreference-r16 Indicates whether the UE supports providing its preference on the minimum scheduling offset for cross-slot scheduling of the cell group for power saving in RRC_CONNECTED, as specified in TS 38.331 [9].	UE	No	No	No
mpsPriorityIndication-r16 Indicates whether the UE supports *mpsPriorityIndication* on RRC release with redirect as defined in TS 38.331 [9].	UE	No	No	No
onDemandSIB-Connected-r16 Indicates whether the UE supports the on-demand request procedure of SIB(s) or posSIB(s) while in RRC_CONNECTED, as specified in TS 38.331 [9].	UE	No	No	No
overheatingInd Indicates whether the UE supports overheating assistance information.	UE	No	No	No
partialFR2-FallbackRX-Req Indicates whether the UE meets only a partial set of the UE minimum receiver requirements for the eligible FR2 fallback band combinations as defined in Clause 4.2 of TS 38.101-2 [3] and Clause 4.2 of TS 38.101-3 [4]. If not indicated, the UE shall meet all the UE minimum receiver requirements for all the FR2 fallback combinations in TS 38.101-2 [3] and TS 38.101-3 [4]. The UE shall support configuration of any of the FR2 fallback band combinations regardless of the presence or the absence of this field.	UE	No	No	No
redirectAtResumeByNAS-r16 Indicates whether the UE supports reception of *redirectedCarrierInfo* in an *RRCRelease* message in response to an *RRCResumeRequest* or *RRCResumeRequest1* which is triggered by the NAS layer, as specified in TS 38.331 [9].	UE	No	No	No
reducedCP-Latency Indicates whether the UE supports reduced control plane latency as defined in TS 38.331 [9]	UE	No	No	No
referenceTimeProvision-r16 Indicates whether the UE supports provision of referenceTimeInfo in *DLInformationTransfer* message and in SIB9 and reference time information preference indication via assistance information, as specified in TS 38.331 [9].	UE	No	No	No
releasePreference-r16 Indicates whether the UE supports providing its preference assistance information to transition out of RRC_CONNECTED for power saving, as specified in TS 38.331 [9].	UE	No	No	No

resumeWithStoredMCG-SCells-r16 Indicates whether the UE supports not deleting the stored MCG SCell configuration when initiating the resume procedure.	UE	No	No	No
resumeWithStoredSCG-r16 Indicates whether the UE supports not deleting the stored SCG configuration when initiating resume. The UE which indicates support for *resumeWithStoredSCG-r16* shall also indicate support for *resumeWithSCG-Config-r16*.	UE	No	No	No
resumeWithSCG-Config-r16 Indicates whether the UE supports (re-)configuration of an SCG during the resume procedure.	UE	No	No	No
splitSRB-WithOneUL-Path Indicates whether the UE supports UL transmission via MCG path and DL reception via either MCG path or SCG path, as specified for the split SRB in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*).	UE	No	No	No
splitDRB-withUL-Both-MCG-SCG Indicates whether the UE supports UL transmission via both MCG path and SCG path for the split DRB as specified in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*).	UE	Yes	No	No
srb3 Indicates whether the UE supports direct SRB between the SN and the UE as specified in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*). This field is not applied to NE-DC.	UE	Yes	No	No
ul-RRC-Segmentation-r16 Indicates whether the UE supports uplink RRC segmentation of *UECapabilityInformation* as specified in TS 38.331 [9]. In this version of the specification, the absence of this parameter does not indicate the UE does not support uplink RRC segmentation of *UECapabilityInformation.*	UE	No	No	No

4.2.3 SDAP Parameters

Definitions for parameters	**Per**	**M**	**FDD-TDD DIFF**
as-ReflectiveQoS Indicates whether the UE supports AS reflective QoS.	UE	No	No

4.2.4 PDCP Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF
continueEHC-Context-r16 Indicates that the UE supports EHC context continuation operation where the UE keeps the established EHC context(s) upon PDCP re-establishment, as specified in TS 38.323 [16].	UE	No	No
continueROHC-Context Defines whether the UE supports ROHC context continuation operation where the UE does not reset the current ROHC context upon PDCP re-establishment, as specified in TS 38.323 [16].	UE	No	No
ehc-r16 Indicates that the UE supports Ethernet header compression and decompression using EHC protocol, as specified in TS 38.323 [16]. The UE indicating this capability and indicating support for at least one ROHC profile, shall support simultaneous configuration of EHC and ROHC on different DRBs.	UE	No	No
extendedDiscardTimer-r16 Indicates whether the UE supports the additional values of PDCP discard timer. The supported additional values are 0.5ms, 1ms, 2ms, 4ms, 6ms and 8ms, as specified in TS 38.331 [9].	UE	No	No
jointEHC-ROHC-Config-r16 Indicates whether the UE supports simultaneous configuration of EHC and ROHC protocols for the same DRB.	UE	No	No
maxNumberROHC-ContextSessions Defines the maximum number of ROHC header compression context sessions supported by the UE, excluding context sessions that leave all headers uncompressed.	UE	No	No
maxNumberEHC-Contexts-r16 Defines the maximum number of Ethernet header compression contexts supported by the UE across all DRBs and across UE's EHC compressor and EHC decompressor. The indicated number defines the number of contexts in addition to CID = "all zeros" as specified in TS 38.323 [16].	UE	No	No
outOfOrderDelivery Indicates whether UE supports out of order delivery of data to upper layers by PDCP.	UE	No	No
pdcp-DuplicationMCG-OrSCG-DRB Indicates whether the UE supports CA-based PDCP duplication over MCG or SCG DRB as specified in TS 38.323 [16].	UE	No	No
pdcp-DuplicationMoreThanTwoRLC-r16 Defines whether the UE supports PDCP duplication with more than two RLC entities as specified in TS 38.323 [16]. The UE supporting this feature supports secondary RLC entity(ies) activation and deactivation based on duplication RLC Activation/Deactivation MAC CE as specified in TS 38.321 [8]. A UE supporting this feature shall also support *pdcp-DuplicationMCG-OrSCG-DRB*, *pdcp-DuplicationSplitDRB*, *pdcp-DuplicationSplitSRB* and *pdcp-DuplicationSRB*.	UE	No	No
pdcp-DuplicationSplitDRB Indicates whether the UE supports PDCP duplication over split DRB as specified in TS 38.323 [16].	UE	No	No
pdcp-DuplicationSplitSRB Indicates whether the UE supports PDCP duplication over split SRB1/2 as specified in TS 38.323 [16].	UE	No	No
pdcp-DuplicationSRB Indicates whether the UE supports CA-based PDCP duplication over SRB1/2 and/or, if (NG)EN-DC is supported, SRB3 as specified in TS 38.323 [16].	UE	No	No
shortSN Indicates whether the UE supports 12 bit length of PDCP sequence number.	UE	Yes	No

supportedROHC-Profiles Defines which ROHC profiles from the list below are supported by the UE: - 0x0000 ROHC No compression (RFC 5795) - 0x0001 ROHC RTP/UDP/IP (RFC 3095, RFC 4815) - 0x0002 ROHC UDP/IP (RFC 3095, RFC 4815) - 0x0003 ROHC ESP/IP (RFC 3095, RFC 4815) - 0x0004 ROHC IP (RFC 3843, RFC 4815) - 0x0006 ROHC TCP/IP (RFC 6846) - 0x0101 ROHC RTP/UDP/IP (RFC 5225) - 0x0102 ROHC UDP/IP (RFC 5225) - 0x0103 ROHC ESP/IP (RFC 5225) - 0x0104 ROHC IP (RFC 5225) A UE that supports one or more of the listed ROHC profiles shall support ROHC profile 0x0000 ROHC uncompressed (RFC 5795). An IMS voice capable UE shall indicate support of ROHC profiles 0x0000, 0x0001, 0x0002 and be able to compress and decompress headers of PDCP SDUs at a PDCP SDU rate corresponding to supported IMS voice codecs.	UE	No	No
uplinkOnlyROHC-Profiles Indicates the ROHC profile(s) that are supported in uplink-only ROHC operation by the UE. - 0x0006 ROHC TCP (RFC 6846) A UE that supports uplink-only ROHC profile(s) shall support ROHC profile 0x0000 ROHC uncompressed (RFC 5795).	UE	No	No

4.2.5 RLC parameters

Definitions for parameters	Per	M	FDD-TDD DIFF
am-WithShortSN Indicates whether the UE supports AM DRB with 12 bit length of RLC sequence number.	UE	Yes	No
extendedT-PollRetransmit-r16 Indicates whether the UE supports the additional values of *T-PollRetransmit timer*. The supported additional values are 1ms, 2ms, 3ms and 4ms, as specified in TS 38.331 [9].	UE	No	No
extendedT-StatusProhibit-r16 Indicates whether the UE supports the additional values of *T-StatusProhibit timer*. The supported additional values are 1ms, 2ms, 3ms and 4ms, as specified in TS 38.331 [9].	UE	No	No
um-WithLongSN Indicates whether the UE supports UM DRB with 12 bit length of RLC sequence number.	UE	Yes	No
um-WithShortSN Indicates whether the UE supports UM DRB with 6 bit length of RLC sequence number.	UE	Yes	No

4.2.6 MAC parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
autonomousTransmission-r16 Indicates whether the UE supports autonomous transmission of the MAC PDU generated for a deprioritized configured uplink grant as specified in TS 38.321 [8]. A UE supporting this feature shall also support *lch-priorityBasedPrioritization-r16*.	UE	No	No	No
directMCG-SCellActivation-r16 Indicates whether the UE supports direct NR MCG SCell activation, as specified in TS 38.321 [8], upon SCell addition, upon reconfiguration with sync of the MCG, as specified in TS 38.331 [9].	UE	No	No	Yes
directMCG-SCellActivationResume-r16 Indicates whether the UE supports direct NR MCG SCell activation, as specified in TS 38.321 [8], upon reception of an *RRCResume* message, as specified in TS 38.331 [9].	UE	No	No	Yes
directSCG-SCellActivation-r16 Indicates whether the UE supports direct NR SCG SCell activation, as specified in TS 38.321 [8], upon SCell addition and upon reconfiguration with sync of the SCG, both performed via an *RRCReconfiguration* message received via SRB3 or contained in an *RRC(Connection)Reconfiguration* message received via SRB1, as specified in TS 38.331 [9] and TS 36.331 [17]. A UE indicating support of *directSCG-SCellActivation-r16* shall indicate support of EN-DC or support of NGEN-DC as specified in TS 36.331 [17] or support of NR-DC as specified in TS 38.331 [9].	UE	No	No	Yes
directSCG-SCellActivationResume-r16 Indicates whether the UE supports direct NR SCG SCell activation, as specified in TS 38.321 [8]: - upon reception of an *RRCReconfiguration* included in an *RRCConnectionResume* message, as specified in TS 38.331 [9] and TS 36.331 [17], if the UE indicates support of EN-DC or NGEN-DC, and support of *resumeWithSCG-Config-r16* as specified in TS 36.331 [17], - upon reception of an *RRCReconfiguration* included in an *RRCResume* message, as specified in TS 38.331 [9], if the UE indicates support of NR-DC and of *resumeWithSCG-Config-r16* as specified in TS 38.331 [9]. A UE indicating support of *directSCG-SCellActivationResume-r16* shall indicate support of EN-DC or NGEN-DC and support of *resumeWithSCG-Config-r16* as specified in TS 36.331 [17] or indicate support of NR-DC and of *resumeWithSCG-Config-r16* as specified in TS 38.331 [9].	UE	No	No	Yes
drx-Adaptation-r16 Indicates whether the UE supports DRX adaptation comprised of the following functional components: - Configured *ps-Offset* for the detection of DCI format 2_6 with CRC scrambling by *ps*-RNTI and reported *MinTimeGap* before the start of *drx-onDurationTimer* of Long DRX - Indication of UE whether or not to start *drx-onDurationTimer* for the next Long DRX cycle by detection of DCI format 2_6 - Configured UE wakeup or not when DCI format 2_6 is not detected at all monitoring occasions outside Active Time - Configured periodic CSI report apart from L1-RSRP (*ps-TransmitOtherPeriodicCSI*) when impacted by DCI format 2_6 that *drx-onDurationTimer* does not start for the next Long DRX cycle - Configured periodic L1-RSRP report (*ps-TransmitPeriodicL1-RSRP*) when impacted by DCI format 2_6 that *drx-onDurationTimer* does not start for the next Long DRX cycle The capability signalling includes the minimum time gap between the end of the slot of last DCI format 2_6 monitoring occasion and the beginning of the slot where the UE would start the *drx-onDurationTimer* of Long DRX for each SCS. The value *sl1* indicates 1 slot. The value *sl2* indicates 2 slots, and so on. Support of this feature is reported for licensed and unlicensed bands, respectively. When this field is reported, either of *sharedSpectrumChAccess-r16* or *non-SharedSpectrumChAccess-r16* shall be reported, at least.	UE	No	No	Yes
enhancedSkipUplinkTxConfigured-r16 Indicates whether the UE supports skipping UL transmission for a configured uplink grant only if no data is available for transmission and no UCI is multiplexed on the corresponding PUSCH of the uplink grant as specified in TS 38.321 [8].	UE	No	Yes	No

enhancedSkipUplinkTxDynamic-r16 Indicates whether the UE supports skipping UL transmission for an uplink grant addressed to a C-RNTI only if no data is available for transmission and no UCI is multiplexed on the corresponding PUSCH of the uplink grant as specified in TS 38.321 [8].	UE	No	Yes	No
lch-PriorityBasedPrioritization-r16 Indicates whether the UE supports prioritization between overlapping grants and between scheduling request and overlapping grants based on LCH priority as specified in TS 38.321 [8].	UE	No	No	No
lch-ToConfiguredGrantMapping-r16 Indicates whether the UE supports restricting data transmission from a given LCH to a configured (sub-) set of configured grant configurations (see *allowedCG-List-r16* in *LogicalChannelConfig* in TS 38.331 [9]) as specified in TS 38.321 [8].	UE	No	No	No
lch-ToGrantPriorityRestriction-r16 Indicates whether the UE supports restricting data transmission from a given LCH to a configured (sub-) set of dynamic grant priority levels (see *allowedPHY-PriorityIndex-r16* in *LogicalChannelConfig* in TS 38.331 [9]) as specified in TS 38.321 [8].	UE	No	No	No
lch-ToSCellRestriction Indicates whether the UE supports restricting data transmission from a given LCH to a configured (sub-) set of serving cells (see *allowedServingCells* in *LogicalChannelConfig*). A UE supporting *pdcp-DuplicationMCG-OrSCG-DRB* or *pdcp-DuplicationSRB* (see *PDCP-Config*) shall also support *lch-ToSCellRestriction*.	UE	No	No	No
lcp-Restriction Indicates whether UE supports the selection of logical channels for each UL grant based on RRC configured restriction using RRC parameters *allowedSCS-List*, *maxPUSCH-Duration*, and *configuredGrantType1Allowed* as specified in TS 38.321 [8].	UE	No	No	No
logicalChannelSR-DelayTimer Indicates whether the UE supports the *logicalChannelSR-DelayTimer* as specified in TS 38.321 [8].	UE	No	Yes	No
longDRX-Cycle Indicates whether UE supports long DRX cycle as specified in TS 38.321 [8].	UE	Yes	Yes	No
multipleConfiguredGrants Indicates whether UE supports more than one configured grant configurations (including both Type 1 and Type 2) in a cell group. For each cell, the UE supports at most one configured grant per BWP and the maximum number of configured grant configurations per cell group is 2. If absent, for each configured cell group, the UE only supports one configured grant configuration on one serving cell.	UE	No	Yes	No
multipleSR-Configurations Indicates whether the UE supports 8 SR configurations per PUCCH cell group as specified in TS 38.321 [8].	UE	No	Yes	No
recommendedBitRate Indicates whether the UE supports the bit rate recommendation message from the gNB to the UE as specified in TS 38.321 [8].	UE	No	No	No
recommendedBitRateMultiplier-r16 Indicates whether the UE supports the bit rate multiplier for recommended bit rate MAC CE as specified in TS 38.321 [8], clause 6.1.3.20. This field is only applicable if the UE supports recommendedBitRate.	UE	No	No	No
recommendedBitRateQuery Indicates whether the UE supports the bit rate recommendation query message from the UE to the gNB as specified in TS 38.321 [8]. This field is only applicable if the UE supports *recommendedBitRate*.	UE	No	No	No
secondaryDRX-Group-r16 Indicates whether UE supports secondary DRX group as specified in TS 38.321 [8].	UE	No	Yes	No
shortDRX-Cycle Indicates whether UE supports short DRX cycle as specified in TS 38.321 [8].	UE	Yes	Yes	No
singlePHR-P-r16 Indicates whether UE supports the P bit in single PHR MAC CE as specified in TS 38.321 [8].	UE	No	No	No
skipUplinkTxDynamic Indicates whether the UE supports skipping of UL transmission for an uplink grant indicated on PDCCH if no data is available for transmission as specified in TS 38.321 [8].	UE	No	Yes	No
spCell-BFR-CBRA-r16 Indicates whether the UE supports sending BFR MAC CE for SpCell BFR as specified in TS 38.321 [8].	UE	No	No	No

srs-ResourceId-Ext-r16 Indicates whether the UE supports the extended 6-bit (Positioning) SRS resource ID in SP Positioning SRS Activation/Deactivation MAC CE, as specified in TS 38.321 [8].	UE	No	No	No
tdd-MPE-P-MPR-Reporting-r16 Indicates whether the UE supports P-MPR reporting for Maximum Permissible Exposure, as specified in TS38.321 [8].	UE	No	TDD only	FR2 only
ul-LBT-FailureDetectionRecovery-r16 Indicates whether the UE supports consistent uplink LBT detection and recovery, as specified in TS 38.321 [8], for cells operating with shared spectrum channel access. This field applies to all serving cells with which the UE is configured with shared spectrum channel access.	UE	No	No	No

4.2.7 Physical layer parameters

4.2.7.1 *BandCombinationList* parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
bandEUTRA Defines supported EUTRA frequency band by NR frequency band number, as specified in TS 36.101 [14].	Band	Yes	N/A	N/A
bandList Each entry of the list should include at least one bandwidth class for UL or DL.	BC	Yes	N/A	N/A
bandNR Defines supported NR frequency band by NR frequency band number, as specified in TS 38.101-1 [2] and TS 38.101-2 [3].	Band	Yes	N/A	N/A
ca-BandwidthClassDL-EUTRA Defines for DL, the class defined by the aggregated transmission bandwidth configuration and maximum number of component carriers supported by the UE, as specified in TS 36.101 [14]. When all FeatureSetEUTRA-DownlinkId:s in the corresponding FeatureSetsPerBand are zero, this field is absent.	Band	No	N/A	N/A
ca-BandwidthClassDL-NR Defines for DL, the class defined by the aggregated transmission bandwidth configuration and maximum number of component carriers supported by the UE, as specified in TS 38.101-1 [2] and TS 38.101-2 [3]. When all FeatureSetDownlinkId:s in the corresponding FeatureSetsPerBand are zero, this field is absent. For FR1, the value 'F' shall not be used as it is invalidated in TS 38.101-1 [2].	Band	No	N/A	N/A
ca-BandwidthClassUL-EUTRA Defines for UL, the class defined by the aggregated transmission bandwidth configuration and maximum number of component carriers supported by the UE, as specified in TS 36.101 [14]. When all FeatureSetEUTRA-UplinkId:s in the corresponding FeatureSetsPerBand are zero, this field is absent.	Band	No	N/A	N/A
ca-BandwidthClassUL-NR Defines for UL, the class defined by the aggregated transmission bandwidth configuration and maximum number of component carriers supported by the UE, as specified in TS 38.101-1 [2] and TS 38.101-2 [3]. When all FeatureSetUplinkId:s in the corresponding FeatureSetsPerBand are zero, this field is absent. For FR1, the value 'F' shall not be used as it is invalidated in TS 38.101-1 [2].	Band	No	N/A	N/A
ca-ParametersEUTRA Contains the EUTRA part of band combination parameters for a given (NG)EN-DC/NE-DC band combination.	BC	No	N/A	N/A
ca-ParametersNR Contains the NR band combination parameters for a given (NG)EN-DC/NE-DC and/or NR CA band combination.	BC	No	N/A	N/A
ca-ParametersNRDC Indicates whether the UE supports NR-DC for the band combination. It contains the NR band combination parameters applicable across MCG and SCG. A UE indicating support for NR-DC shall support synchronous NR-DC configuration where all serving cells of the MCG are in FR1 and all serving cells of the SCG are in FR2.	BC	No	N/A	N/A
featureSetCombination Indicates the feature set that the UE supports on the NR and/or MR-DC band combination by FeatureSetCombinationId.	BC	N/A	N/A	N/A
featureSetCombinationDAPS-r16 Indicates the feature set that the UE supports for DAPS handover on the NR band combination by FeatureSetCombinationId. A UE shall include this field if intra-frequency or inter-frequency DAPS handover is supported for this band combination. For a band entry where it indicates the support for intra-frequency DAPS handover, the UE shall include at least two CCs and shall support intra-frequency DAPS handover between any CC pair within the same band entry. If the number of CCs within a band combination is more than one and if inter-frequency DAPS handover is supported, UE shall support inter-frequency DAPS handover between every CC pair in the same or different band entries in the band combination, except for the CC pair within a band entry with bandwidth class A. A feature set including *intraFreqDAPS-r16* can only be referred to by *featureSetCombinationDAPS-r16*, not by *featureSetCombination*. A feature set without *intraFreqDAPS-r16* is only applied to inter-freq DAPS handover if it is referred to by *featureSetCombinationDAPS*. Both feature sets with and without *intraFreqDAPS-r16* can be referred to by the same *featureSetCombinationDAPS-r16*.	BC	N/A	N/A	N/A

intrabandConcurrentOperationPowerClass-r16 Indicates the power class, of a particular Uu band combination and the intra-band PC5 band combination(s) on which the UE supports transmission of PC5 simultaneous with Uu uplink (as indicated by *supportedTxBandCombListPerBC-Sidelink-r16*). The leading/leftmost value corresponds to the band combination of the particular Uu band combination and the first intra-band PC5 band combination included in *BandCombinationListSidelinkEUTRA-NR* which is indicated with value 1 by *supportedTxBandCombListPerBC-Sidelink-r16*, the next value corresponds to the band combination of the particular Uu band combination and the second intra-band PC5 band combination included in *BandCombinationListSidelinkEUTRA-NR* which is indicated with value 1 by *supportedTxBandCombListPerBC-Sidelink-r16* and so on. If this power class is higher than the power class that the UE supports on the individual Uu or PC5 interface of this band combination, the latter determines maximum TX power available in each interface.	BC	No	N/A	N/A
mrdc-Parameters Contains the band combination parameters for a given (NG)EN-DC/NE-DC band combination.	BC	No	N/A	N/A
ne-DC-BC Indicates whether the UE supports NE-DC for the band combination.	BC	No	N/A	N/A
powerClass, powerClass-v1610 Indicates power class the UE supports when operating according to this band combination. If the field is absent, the UE supports the default power class. If this power class is higher than the power class that the UE supports on the individual bands of this band combination (*ue-PowerClass* in *BandNR*), the latter determines maximum TX power available in each band. The UE sets the power class parameter only in band combinations that are applicable as specified in TS 38.101-1 [2] and TS 38.101-3 [4]. This capability is not applicable to IAB-MT.	BC	No	N/A	FR1 only
powerClassNRPart-r16 Indicates NR part power class the UE supports when operating according to this band combination. This field only applies for MR-DC BCs containing only single CC or intra-band CA in NR side in this release.	BC	No	N/A	FR1 only
scalingFactorTxSidelink-r16, scalingFactorRxSidelink-r16 Indicates, for a particular Uu band combination, the scaling factor for the PC5 band combination(s) on which the UE supports transmission/reception of PC5 simultaneous with Uu uplink/downlink respectively (as indicated by *supportedTxBandCombListPerBC-Sidelink-r16* / *supportedRxBandCombListPerBC-Sidelink-r16*). The leading / leftmost value corresponds to the first band combination included in *BandCombinationListSidelinkEUTRA-NR* which is indicated with value 1 by *supportedTxBandCombListPerBC-Sidelink-r16* / *supportedRxBandCombListPerBC-Sidelink-r16*, the next value corresponds to the second band combination included in *BandCombinationListSidelinkEUTRA-NR* which is indicated with value 1 by *supportedTxBandCombListPerBC-Sidelink-r16* / *supportedRxBandCombListPerBC-Sidelink-r16* and so on. For each value of *ScalingFactorSidelink-r16*, value f0p4 indicates the scaling factor 0.4, f0p75 indicates 0.75, and so on.	BC	No	N/A	N/A
SRS-SwitchingTimeNR Indicates the interruption time on DL/UL reception within a NR band pair during the RF retuning for switching between a carrier on one band and another (PUSCH-less) carrier on the other band to transmit SRS. *switchingTimeDL/ switchingTimeUL*: n0us represents 0 us, n30us represents 30us, and so on. *switchingTimeDL/ switchingTimeUL* is mandatory present if switching between the NR band pair is supported, otherwise the field is absent. It is signalled per pair of bands per band combination.	FD	No	N/A	N/A
SRS-SwitchingTimeEUTRA Indicates the interruption time on DL/UL reception within a EUTRA band pair during the RF retuning for switching between a carrier on one band and another (PUSCH-less) carrier on the other band to transmit SRS. *switchingTimeDL/ switchingTimeUL:* n0 represents 0 OFDM symbols, n0dot5 represents 0.5 OFDM symbols, n1 represents 1 OFDM symbol and so on. *switchingTimeDL/ switchingTimeUL* is mandatory present if switching between the EUTRA band pair is supported, otherwise the field is absent. It is signalled per pair of bands per band combination.	FD	No	N/A	N/A

srs-TxSwitch, srs-TxSwitch-v1610 Defines whether UE supports SRS for DL CSI acquisition as defined in clause 6.2.1.2 of TS 38.214 [12]. The capability signalling comprises of the following parameters: - *supportedSRS-TxPortSwitch* indicates SRS Tx port switching pattern supported by the UE, which is mandatory with capability signalling. The indicated UE antenna switching capability of 'xTyR' corresponds to a UE, capable of SRS transmission on 'x' antenna ports over total of 'y' antennas, where 'y' corresponds to all or subset of UE receive antennas, where 2T4R is two pairs of antennas. *supportedSRS-TxPortSwitch-v1610*, which is optional to report, indicates downgrading configuration of SRS Tx port switching pattern. If the UE indicates the support of downgrading configuration of SRS Tx port switching pattern using *supportedSRS-TxPortSwitch-v1610*, the UE shall report the values for this as below, based on what is reported in *supportedSRS-TxPortSwitch*. ***supportedSRS-TxPortSwitch*** — ***supportedSRS-TxPortSwitch-v1610*** *t1r2* — *t1r1-t1r2* *t1r4* — *t1r1-t1r2-t1r4* *t2r4* — *t1r1-t1r2-t2r2-t2r4* *t2r2* — *t1r1-t2r2* *t4r4* — *t1r1-t2r2-t4r4* *t1r4-t2r4* — *t1r1-t1r2-t2r2-t1r4-t2r4* - *txSwitchImpactToRx* indicates the entry number of the first-listed band with UL (see NOTE) in the band combination that affects this DL, which is mandatory with capability signalling; - *txSwitchWithAnotherBand* indicates the entry number of the first-listed band with UL (see NOTE) in the band combination that switches together with this UL, which is mandatory with capability signalling. For *txSwitchImpactToRx* and *txSwitchWithAnotherBand*, value 1 means first entry, value 2 means second entry and so on. 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: The first-listed band with UL includes a band associated with *FeatureSetUplinkId* set to 0 corresponding to the support of SRS-SwitchingTimeNR.	BC	FD	N/A	N/A
supportedBandwidthCombinationSet Defines the supported bandwidth combination set for a band combination as defined in TS 38.101-1 [2], TS 38.101-2 [3] and TS 38.101-3 [4]. For NR SA CA, NR-DC, inter-band (NG)EN-DC without intra-band (NG)EN-DC component, inter-band NE-DC without intra-band NE-DC component and intra-band (NG)EN-DC/NE-DC with additional inter-band NR CA component, the field defines the bandwidth combinations for the NR part of the band combination. For intra-band (NG)EN-DC/NE-DC without additional inter-band NR and LTE CA component, the field indicates the supported bandwidth combination set applicable to intra-band (NG)EN-DC/NE-DC band combination. This field is not applicable to source and target cells in intra-frequency DAPS handover. Field encoded as a bit map, where bit N is set to "1" if UE supports Bandwidth Combination Set N for this band combination as defined in the TS 38.101-1 [2], TS 38.101-2 [3] and TS 38.101-3 [4]. The leading / leftmost bit (bit 0) corresponds to the Bandwidth Combination Set 0, the next bit corresponds to the Bandwidth Combination Set 1 and so on. It is mandatory if - the band combination has more than one NR carrier (at least one SCell in an NR cell group); - or is an intra-band (NG)EN-DC/NE-DC combination without additional inter-band NR and LTE CA component; - or both.	BC	CY	N/A	N/A

supportedBandwidthCombinationSetIntraENDC Defines the supported bandwidth combination set for a band combination that allows configuration of at least one EUTRA serving cell and at least one NR serving cell in the same band, as defined in the TS 38.101-3 [4], table 5.3B.1.2-1 and table 5.3B.1.3-1. - For intra-band (NG)EN-DC with additional inter-band CA component(s) of LTE and/or NR, the field defines the bandwidth combinations for the intra-band (NG)EN-DC component. - For intra-band NE-DC with additional inter-band CA component(s) of LTE and/or NR, the field defines the bandwidth combinations for the intra-band NE-DC component. Field encoded as a bit map, where bit N is set to "1" if UE support Bandwidth Combination Set N for this band combination as defined in the TS 38.101-3 [4]. The leading / leftmost bit (bit 0) corresponds to the Bandwidth Combination Set 0, the next bit corresponds to the Bandwidth Combination Set 1 and so on. - It is mandatory if the band combination is an intra-band (NG)EN-DC/NE-DC combination supporting both UL and DL intra-band (NG)EN-DC/NE-DC parts with additional inter-band NR/LTE CA component. - It is optional if the band combination is an intra-band (NG)EN-DC/NE-DC combination without supporting UL in both the bands of the intra-band (NG)EN-DC/NE-DC UL part. If not included, the network assumes the UE supports BCS0 as defined in TS 38.101-3 [4], table 5.3B.1.2-1 and table 5.3B.1.3-1 for the intra-band (NG)EN-DC/NE-DC.	BC	CY	N/A	N/A
supportedTxBandCombListPerBC-Sidelink-r16, supportedRxBandCombListPerBC-Sidelink-r16 Indicates, for a particular Uu band combination, the PC5 band combination(s) on which the UE supports transmission/reception of PC5 simultaneously with Uu uplink/downlink respectively. The leading / leftmost bit (bit 0) corresponds to the first band combination included in *BandCombinationListSidelinkEUTRA-NR*, the next bit corresponds to the second band combination included in *BandCombinationListSidelinkEUTRA-NR* and so on. with value 1 indicating simultaneous transmission/reception is supported.	BC	No	N/A	N/A
ULTxSwitchingBandPair-r16 Indicates UE supports dynamic UL Tx switching in case of inter-band CA, SUL, and (NG)EN-DC as defined in TS 38.214 [12], TS 38.101-1 [2] and TS 38.101-3 [4]. The capability signalling comprises of the following parameters: - *bandIndexUL1-r16* and *bandIndexUL2-r16* indicate the band pair on which UE supports dynamic UL Tx switching. *bandindexUL1*/*bandindexUL2* xx refers to the xxth band entry in the band combination. UE shall indicate support for 2-layer UL MIMO capabilities on one of the indicated two bands in each FeatureSet entry supporting UL 1Tx-2Tx switching, and only the band where UE supports 2-layer UL MIMO capability can work as carrier2 as defined in TS 38.101-1 [2] and TS 38.101-3 [4]. - *uplinkTxSwitchingPeriod-r16* indicates the length of UL Tx switching period per pair of UL bands per band combination when dynamic UL Tx switching is configured, as specified in TS 38.101-1 [2] and TS 38.101-3 [4]. UE shall not report the value n210us for EN-DC band combinations. n35us represents 35 us, n140us represents 140us, and so on, as specified in TS 38.101-1 [2] and TS 38.101-3 [4]. - *uplinkTxSwitching-DL-Interruption-r16* indicates that DL interruption on the band will occur during UL Tx switching, as specified in TS 38.133 [5] and in TS 36.133 [27]. 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] and in TS 36.133 [27]. 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 - TDD+TDD EN-DC with the same UL-DL pattern	BC	FD	N/A	FR1 only

uplinkTxSwitching-OptionSupport-r16 Indicates which option is supported for dynamic UL Tx switching for inter-band UL CA and (NG)EN-DC. *switchedUL* represents option 1 as specified in TS 38.214 [12], *dualUL* represents option 2 as specified in TS 38.214 [12], *both* represents both option 1 and option2 as specified in TS 38.214 [12]. UE shall not report the value *both* for (NG)EN-DC case. The field is mandatory for inter-band UL CA and (NG)EN-DC case where UE supports dynamic UL Tx switching.	BC	CY	N/A	FR1 only
uplinkTxSwitching-PowerBoosting-r16 Indicates the support of 3dB boosting on the maximum output power for UE transmission under the operation state in which 2-port transmission can be supported on carrier2 in case of inter-band UL CA case where UE supports dynamic UL Tx switching. A UE shall only indicate this capability in case the UE supports power class 3 for inter-band UL CA for the band combination as defined in TS 38.101-1 [2].	BC	No	N/A	FR1 only
uplinkTxSwitching-PUSCH-TransCoherence-r16 Indicates support of the uplink codebook subset when uplink Tx switching is triggered between last transmitted SRS and scheduled PUSCH transmission, as specified in TS 38.101-1 [2]. UE indicating support of full coherent codebook subset shall also support non-coherent codebook subset. If the field is absent, the supported uplink codebook subset indicated by *pusch-TransCoherence* applies when the uplink switching is triggered between last transmitted SRS and scheduled transmission.	BC	No	N/A	FR1 only

4.2.7.2 *BandNR parameters*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
activeConfiguredGrant-r16 Indicates whether the UE supports up to 12 configured/active configured grant configurations in a BWP of a serving cell. This field includes the following parameters: - *maxNumberConfigsPerBWP-r16* indicates the maximum number of configured/active configured grant configurations in a BWP of a serving cell. - *maxNumberConfigsAllCC-r16* indicates the maximum number of configured/active configured grant configurations across all serving cells in a MAC entity, and across MCG and SCG in case of NR-DC. The UE can include this feature only if the UE indicates support of either *configuredUL-GrantType1 or configuredUL-GrantType1-v1650* or *configuredUL-GrantType2 or configuredUL-GrantType2-v1650*. NOTE: - For all the reported bands in FR1, a same X1 value is reported for *maxNumberConfigsAllCC-r16*. For all the reported bands in FR2, a same X2 value is reported for *maxNumberConfigsAllCC-r16*. - The total number of configured/active configured grant configurations across all serving cells in FR1 is no greater than X1. - The total number of configured/active configured grant configurations across all serving cells in FR2 is no greater than X2. - If the CA have some serving cell(s) in FR1 and some serving cell(s) in FR2, the total number of configured/active configured grant configurations across all serving cells is no greater than max(X1, X2).	Band	No	N/A	N/A
additionalActiveTCI-StatePDCCH Indicates whether the UE supports one additional active TCI-State for control in addition to the supported number of active TCI-States for PDSCH. The UE can include this field only if *maxNumberActiveTCI-PerBWP* in *tci-StatePDSCH* is set to *n1*. Otherwise, the UE does not include this field.	Band	No	N/A	N/A
aperiodicBeamReport Indicates whether the UE supports aperiodic 'CRI/RSRP' or 'SSBRI/RSRP' reporting on PUSCH. The UE provides the capability for the band number for which the report is provided (where the measurement is performed).	Band	Yes	N/A	N/A
aperiodicTRS Indicates whether the UE supports DCI triggering aperiodic TRS associated with periodic TRS.	Band	No	N/A	Yes
asymmetricBandwidthCombinationSet Defines the supported asymmetric channel bandwidth combination for the band as defined in the TS 38.101-1 [2]. Field encoded as a bit map, where bit N is set to "1" if UE support asymmetric channel bandwidth combination set N for this band as defined in the TS 38.101-1 [2]. The leading / leftmost bit (bit 0) corresponds to the asymmetric channel bandwidth combination set 1, the next bit corresponds to the asymmetric channel bandwidth combination set 2 and so on. UE shall support asymmetric channel bandwidth combination set 0. If the field is absent, the UE supports asymmetric channel bandwidth combination set 0.	Band	No	N/A	N/A
bandNR Defines supported NR frequency band by NR frequency band number, as specified in TS 38.101-1 [2] and TS 38.101-2 [3].	Band	Yes	N/A	N/A
beamCorrespondenceCSI-RS-based-r16 Indicates whether the UE support for beam correspondence based on CSI-RS has the ability to select its uplink beam based on measurement of CSI-RS. If a UE supports beam correspondence based on CSI-RS, then the network can expect the UE to also fulfil Rel-15 beam correspondence requirements. If UE supports neither *beamCorrespondenceSSB-based-r16* nor *beamCorrespondenceCSI-RS-based-r16*, gNB can expect the UE to fulfill beam correspondence based on Rel-15 beam correspondence requirements.	Band	No	TDD only	FR2 only

beamCorrespondenceSSB-based-r16 Indicates whether the UE support for beam correspondence based on SSB has the ability to select its uplink beam based on measurement of SSB. If a UE supports beam correspondence based on SSB, then the network can expect the UE to also fulfil Rel-15 beam correspondence requirements. If UE supports neither *beamCorrespondenceSSB-based-r16* nor *beamCorrespondenceCSI-RS-based-r16*, gNB can expect the UE to fulfil beam correspondence based on Rel-15 beam correspondence requirements.	Band	No	TDD only	FR2 only
beamCorrespondenceWithoutUL-BeamSweeping Indicates how UE supports FR2 beam correspondence as specified in TS 38.101-2 [3], clause 6.6. The UE that fulfils the beam correspondence requirement without the uplink beam sweeping (as specified in TS 38.101-2 [3], clause 6.6) shall set the field to *supported*. The UE that fulfils the beam correspondence requirement with the uplink beam sweeping (as specified in TS 38.101-2 [3], clause 6.6) shall not report this field.	Band	Yes	N/A	FR2 only
beamManagementSSB-CSI-RS Defines support of SS/PBCH and CSI-RS based RSRP measurements. The capability comprises signalling of - *maxNumberSSB-CSI-RS-ResourceOneTx* indicates maximum total number of configured one port NZP CSI-RS resources and SS/PBCH blocks that are supported by the UE to measure L1-RSRP as specified in TS 38.215 [13] within a slot and across all serving cells (see NOTE). On FR2, it is mandatory to report >=8; On FR1, it is mandatory with capability signalling to report >=8. - *maxNumberCSI-RS-Resource* indicates maximum total number of configured NZP-CSI-RS resources that are supported by the UE to measure L1-RSRP as specified in TS 38.215 [13] across all serving cells (see NOTE). It is mandated to report at least n8 for FR1. - *maxNumberCSI-RS-ResourceTwoTx* indicates maximum total number of two ports NZP CSI-RS resources that are supported by the UE to measure L1-RSRP as specified in TS 38.215 [13] within a slot and across all serving cells (see NOTE). - *supportedCSI-RS-Density* indicates density of one RE per PRB for one port NZP CSI-RS resource for RSRP reporting, if supported. On FR2, it is mandatory to report either "three" or "oneAndThree"; On FR1, it is mandatory with capability signalling to report either "three" or "oneAndThree". - *maxNumberAperiodicCSI-RS-Resource* indicates maximum number of configured aperiodic CSI-RS resources across all serving cells (see NOTE). For FR1 and FR2, the UE is mandated to report at least n4. NOTE: If the UE sets a value other than *n0* in an FR1 band, it shall set that same value in all FR1 bands. If the UE sets a value other than *n0* in an FR2 band, it shall set that same value in all FR2 bands. The UE supports a total number of resources equal to the maximum of the FR1 and FR2 value, but no more than the FR1 value across all FR1 serving cells and no more than the FR2 value across all FR2 serving cells.	Band	Yes	N/A	FD
beamReportTiming Indicates the number of OFDM symbols between the end of the last symbol of SSB/CSI-RS and the start of the first symbol of the transmission channel containing beam report. The UE provides the capability for the band number for which the report is provided (where the measurement is performed). The UE includes this field for each supported sub-carrier spacing.	Band	Yes	N/A	N/A

beamSwitchTiming Indicates the minimum number of OFDM symbols between the DCI triggering of aperiodic CSI-RS and aperiodic CSI-RS transmission. The number of OFDM symbols is measured from the end of the last symbol containing the indication to the start of the first symbol of CSI-RS. The UE includes this field for each supported sub-carrier spacing. NOTE: *beamSwitchTiming* of value (*sym224* or *sym336*) will be used to determine UE expectation/behaviour for aperiodic CSI-RS for tracking and latency requirements for L1-RSRP reporting as described in clause 5.1.6.1.1 of TS 38.214 [12], while UE behaviour/assumption regarding before or after beam switch timing is unspecified for measuring AP CSI-RS for CSI acquisition (without *trs-Info* and without repetition) and for beam management (with repetition 'off').	Band	No	N/A	FR2 only
beamSwitchTiming-r16 Indicates the minimum number of required OFDM symbols (sym224, sym336) between the DCI triggering aperiodic CSI-RS and the corresponding aperiodic CSI-RS transmission in a CSI-RS resource set configured with repetition 'ON' if *enableBeamSwitchTiming-r16* is configured. For CSI-RS configured with repetition "*off*", the UE applies beam switch time of sym48 if *beamSwitchTiming-r16* is reported and *enableBeamSwitchTiming-r16* is configured. For CSI-RS configured without repetition and without *trs-info*, the UE applies beam switch time of sym48 if *beamSwitchTiming-r16* is reported and *enableBeamSwitchTiming-r16* is configured.	Band	No	N/A	FR2 only
bwp-DiffNumerology Indicates whether the UE supports BWP adaptation up to 4 BWPs with the different numerologies, via DCI and timer. Except for SUL, the UE only supports the same numerology for the active UL and DL BWP. For the UE capable of this feature, the bandwidth of a UE-specific RRC configured DL BWP includes the bandwidth of the CORESET#0 (if CORESET#0 is present) and SSB for PCell and PSCell (if configured). For SCell(s), the bandwidth of the UE-specific RRC configured DL BWP includes SSB, if there is SSB on SCell(s).	Band	No	N/A	N/A
bwp-SameNumerology Indicates whether UE supports BWP adaptation (up to 2/4 BWPs) with the same numerology, via DCI and timer. Except for SUL, the UE only supports the same numerology for the active UL and DL BWP. For the UE capable of this feature, the bandwidth of a UE-specific RRC configured DL BWP includes the bandwidth of the CORESET#0 (if CORESET#0 is present) and SSB for PCell and PSCell (if configured). For SCell(s), the bandwidth of the UE-specific RRC configured DL BWP includes SSB, if there is SSB on SCell(s).	Band	No	N/A	N/A
bwp-WithoutRestriction Indicates support of BWP operation without bandwidth restriction. The Bandwidth restriction in terms of DL BWP for PCell and PSCell means that the bandwidth of a UE-specific RRC configured DL BWP may not include the bandwidth of CORESET #0 (if configured) and SSB. For SCell(s), it means that the bandwidth of DL BWP may not include SSB.	Band	No	N/A	N/A
cancelOverlappingPUSCH-r16 Indicates whether UE supports the cancellation of the (repetition of the) PUSCHs transmission on all other intra-band serving cell(s). The cancellation of the (repetition of the) PUSCH transmission on a the set of intra-band serving cell(s) includes all symbols from the earliest symbol that is overlapping with the first cancelled symbol of the PUSCH on the serving cell for which the DCI format 2_4 is applicable to. If the UE supports this feature, the UE needs to report *pa-PhaseDiscontinuityImpacts* and *ul-CancellationSelfCarrier-r16*.	Band	No	N/A	N/A

channelBWs-DL Indicates for each subcarrier spacing the UE supported channel bandwidths. Absence of the *channelBWs-DL* (without suffix) for a band or absence of specific scs-XXkHz entry for a supported subcarrier spacing means that the UE supports the channel bandwidths among [5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100] and [50, 100, 200] that were defined in clause 5.3.5 of TS 38.101-1 version 15.7.0 [2] and TS 38.101-2 version 15.7.0 [3] for the given band or the specific SCS entry. For IAB-MT, to determine whether the IAB-MT supports a channel bandwidth of 100 MHz, the network checks c*hannelBW-DL-IAB-r16*. For FR1, the bits in *channelBWs-DL* (without suffix) starting from the leading / leftmost bit indicate 5, 10, 15, 20, 25, 30, 40, 50, 60 and 80MHz. For FR2, the bits in *channelBWs-DL* (without suffix) starting from the leading / leftmost bit indicate 50, 100 and 200MHz. The third / rightmost bit (for 200MHz) shall be set to 1. For IAB-MT the third / rightmost bit (for 200MHz) is ignored. To determine whether the IAB-MT supports a channel bandwidth of 200 MHz, the network checks *channelBW-DL-IAB-r16*. For FR1, the leading/leftmost bit in *channelBWs-DL-v1590* indicates 70MHz, the second leftmost bit indicates 45MHz, the third leftmost bit indicates 35MHz, the fourth leftmost bit indicates 100MHz and all the remaining bits in *channelBWs-DL-v1590* shall be set to 0. The fourth leftmost bit (for 100MHz) is not applicable for bands n41, n48, n77, n78, n79 and n90 as defined in TS 38.101-1 [2]. NOTE: To determine whether the UE supports a specific SCS for a given band, the network validates the *supportedSubCarrierSpacingDL* and the *scs-60kHz*. To determine whether the UE supports a channel bandwidth of 90 MHz, the network may ignore this capability and validate instead the *channelBW-90mhz*, the *supportedBandwidthCombinationSet* and the *supportedBandwidthCombinationSetIntraENDC*. To determine whether the UE supports a channel bandwidth of 400 MHz, the network may ignore this capability and validate the *supportedBandwidthCombinationSet,* the *supportedBandwidthCombinationSetIntraENDC* and the *supportedBandwidthDL*. For serving cell(s) with other channel bandwidths the network validates the *channelBWs-DL*, the *supportedBandwidthCombinationSet*, the *supportedBandwidthCombinationSetIntraENDC*, the *asymmetricBandwidthCombinationSet* (for a band supporting asymmetric channel bandwidth as defined in clause 5.3.6 of TS 38.101-1 [2]) and *supportedBandwidthDL*.	Band	Yes	N/A	N/A

channelBWs-UL Indicates for each subcarrier spacing the UE supported channel bandwidths. Absence of the *channelBWs-UL* (without suffix) for a band or absence of specific scs-XXkHz entry for a supported subcarrier spacing means that the UE supports the channel bandwidths among [5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100] and [50, 100, 200] that were defined in clause 5.3.5 of TS 38.101-1 version 15.7.0 [2] and TS 38.101-2 version 15.7.0 [3] for the given band or the specific SCS entry. For IAB-MT, to determine whether the IAB-MT supports a channel bandwidth of 100 MHz, the network checks *channelBW-UL-IAB-r16*. For FR1, the bits in *channelBWs-UL* (without suffix) starting from the leading / leftmost bit indicate 5, 10, 15, 20, 25, 30, 40, 50, 60 and 80MHz. For FR2, the bits in *channelBWs-UL* (without suffix) starting from the leading / leftmost bit indicate 50, 100 and 200MHz. The third / rightmost bit (for 200MHz) shall be set to 1. For IAB-MT the third / rightmost bit (for 200MHz) is ignored. To determine whether the IAB-MT supports a channel bandwidth of 200 MHz, the network checks *channelBW-UL-IAB-r16*. For FR1, the leading/leftmost bit in *channelBWs-UL-v1590* indicates 70 MHz, the second leftmost bit indicates 45MHz, the third leftmost bit indicates 35MHz, the fourth leftmost bit indicates 100MHz and all the remaining bits in *channelBWs-UL-v1590* shall be set to 0. The fourth leftmost bit (for 100MHz) is not applicable for bands n41, n48, n77, n78, n79 and n90 as defined in TS 38.101-1 [2]. NOTE: To determine whether the UE supports a specific SCS for a given band, the network validates the *supportedSubCarrierSpacingUL* and the *scs-60kHz*. To determine whether the UE supports a channel bandwidth of 90 MHz the network may ignore this capability and validate instead the *channelBW-90mhz*, the *supportedBandwidthCombinationSet* and the *supportedBandwidthCombinationSetIntraENDC*. To determine whether the UE supports a channel bandwidth of 400 MHz, the network may ignore this capability and validate the *supportedBandwidthCombinationSet,* the *supportedBandwidthCombinationSetIntraENDC* and the *supportedBandwidthUL*. For serving cell(s) with other channel bandwidths the network validates the *channelBWs-UL*, the *supportedBandwidthCombinationSet*, the *supportedBandwidthCombinationSetIntraENDC*, the *asymmetricBandwidthCombinationSet* (for a band supporting asymmetric channel bandwidth as defined in clause 5.3.6 of TS 38.101-1 [2]) and *supportedBandwidthUL*.	Band	Yes	N/A	N/A
channelBW-DL-IAB-r16 Indicates whether the IAB-MT supports channel bandwidth of 100 MHz for a given SCS in FR1 for DL or whether the IAB-MT supports channel bandwidth of 200 MHz for a given SCS in FR2 for DL.	Band	No	N/A	N/A
channelBW-UL-IAB-r16 Indicates whether the IAB-MT supports channel bandwidth of 100 MHz for a given SCS in FR1 for UL or whether the IAB-MT supports channel bandwidth of 200 MHz for a given SCS in FR2 for UL.	Band	No	N/A	N/A

codebookComboParametersAddition-r16 Indicates the UE supports the mixed codebook combinations and the corresponding parameters supported by the UE. For mixed codebook types, UE reports support active CSI-RS resources and ports for up to 4 mixed codebook combinations in any slot. The following is the possible mixed codebook combinations: - {Type 1 Single Panel, Type 2, Null} - {Type 1 Single Panel, Type 2 with port selection, Null} - {Type 1 Single Panel, eType 2 with R=1, Null} - {Type 1 Single Panel, eType 2 with R=2, Null} - {Type 1 Single Panel, eType 2 with R=1 and port selection, Null} - {Type 1 Single Panel, eType 2 with R=2 and port selection, Null} - {Type 1 Single Panel, Type 2, Type 2 with port selection} - {Type 1 Multi Panel, Type 2, Null} - {Type 1 Multi Panel, Type 2 with port selection, Null} - {Type 1 Multi Panel, eType 2 with R=1, Null} - {Type 1 Multi anel, eType 2 with R=2, Null} - {Type 1 Multi Panel, eType 2 with R=1 with port selection, Null} - {Type 1 Multi Panel, eType 2 with R=2 with port selection, Null} - {Type 1 Multi Panel, Type 2, Type 2 with port selection} Parameters for each mixed codebook supported by the UE: - *supportedCSI-RS-ResourceListAdd-r16* indicates the list of supported CSI-RS resources in a band by referring to *codebookVariantsList*. The following parameters are included in *codebookVariantsList*: For *supportedCSI-RS-ResourceListAdd-r16* related to the additional codebooks: - The minimum of *maxNumberTxPortsPerResource* is '*p4*'; - The minimum value of *totalNumberTxPortsPerBand* is 4. If a UE reports one or more mixed codebook combinations, then usage of active CSI-RS resources and ports for multiple codebooks in any slot is allowed only within those combinations. For coexisting of mixed codebooks in any slot, gNB needs to consider the mixed codebook combination capability as well as per codebook capability of each codebook type in the mixed codebook combination. UE indicates support of a codebook type in the mixed codebook combination shall indicates support of the individual codebook type in the per band capability.	Band	No	N/A	N/A

codebookParameters
Indicates the codebooks and the corresponding parameters supported by the UE.
 	
Parameters for type I single panel codebook (type1 singlePanel) supported by the UE, which are mandatory to report:
- *supportedCSI-RS-ResourceList*;
  - a UE shall support a *maxNumberTxPortsPerResource* minimum value of 4 for codebook type I single panel in FR1 in the case of a single active CSI-resource across all bands in a band combination, regardless of what it reports in *supportedCSI-RS-ResourceList* with *maxNumberTxPortsPerResource*;
  - a UE shall support a *maxNumberTxPortsPerResource* minimum value of 8 when configured with wideband CSI report for codebook type I single panel in FR1 in the case of a single active CSI-resource across all bands in a band combination, regardless of what it reports in *supportedCSI-RS-ResourceList* with *maxNumberTxPortsPerResource*;
  - a UE shall support a *maxNumberTxPortsPerResource* minimum value of 2 for codebook type I single panel in FR2 in the case of a single active CSI-resource across all bands in a band combination, regardless of what it reports in *supportedCSI-RS-ResourceList* with *maxNumberTxPortsPerResource*.
- *modes* indicates supported codebook modes (mode 1, both mode 1 and mode 2);
- *maxNumberCSI-RS-PerResourceSet* indicates the maximum number of CSI-RS resource in a resource set.
 	
Parameters for type I multi-panel codebook (type1 multiPanel) supported by the UE, which are optional:
- *supportedCSI-RS-ResourceList*;
- *modes* indicates supported codebook modes (mode 1, mode 2, or both mode 1 and mode 2);
- *maxNumberCSI-RS-PerResourceSet* indicates the maximum number of CSI-RS resource in a resource set;
- *nrofPanels* indicates supported number of panels.
 	
Parameters for type II codebook (type2) supported by the UE, which are optional:
- *supportedCSI-RS-ResourceList*;
- *parameterLx* indicates the parameter "Lx" in codebook generation where x is an index of Tx ports indicated by *maxNumberTxPortsPerResource*;
- *amplitudeScalingType* indicates the amplitude scaling type supported by the UE (wideband or both wideband and sub-band);
- *amplitudeSubsetRestriction* indicates whether amplitude subset restriction is supported for the UE.
 	
Parameters for type II codebook with port selection (type2-PortSelection) supported by the UE, which are optional:
- *supportedCSI-RS-ResourceList*;
- *parameterLx* indicates the parameter "Lx" in codebook generation where x is an index of Tx ports indicated by *maxNumberTxPortsPerResource*;
- *amplitudeScalingType* indicates the amplitude scaling type supported by the UE (wideband or both wideband and sub-band).
 	
supportedCSI-RS-ResourceList includes list of the following parameters:
- *maxNumberTxPortsPerResource* indicates the maximum number of Tx ports in a resource;
- *maxNumberResourcesPerBand* indicates the maximum number of resources across all CCs within a band simultaneously;
- *totalNumberTxPortsPerBand* indicates the total number of Tx ports across all CCs within a band simultaneously.
For each codebook type, the UE may report another list of supported CSI-RS resources via *supportedCSI-RS-ResourceListAlt* in *codebookParametersPerBand*.
For type I single panel codebook (type1 singlePanel) supportedCSI-RS-ResourceListAlt,
- a UE shall report at least one triplet in supportedCSI-RS-ResourceListAlt with maxNumberTxPortsPerResource greater than or equal to 8 for FR1;
	Band	FD	N/A	N/A

- a UE shall report at least one triplet in supportedCSI-RS-ResourceListAlt with maxNumberTxPortsPerResource greater than or equal to 2 for FR2.				

codebookParametersAddition-r16
Indicates the UE support of additional codebooks and the corresponding parameters supported by the UE.
 	
Codebook etype 2 R=1 support parameter combination 1 to 6 and rank 1 to 2. Parameters for etype 2 R=1 (*etype2R1-r16*) supported by the UE, which are optional:
- *supportedCSI-RS-ResourceListAdd-r16* indicates the list of supported CSI-RS resources in a band by referring to *codebookVariantsList*. The following parameters are included in *codebookVariantsList*:
  - *maxNumberTxPortsPerResource* indicates the maximum number of Tx ports in a resource of a band;
  - *maxNumberResourcesPerBand* indicates the maximum number of resources across all CCs in a band, simultaneously;
  - *totalNumberTxPortsPerBand* indicates the total number of Tx ports across all CCs in a band, simultaneously.
- *paramComb7-8-r16* indicates the support of parameter combinations 7-8 for etype 2 R=1
- *rank3-4-r16* indicates the support of rank 3,4.
- *amplitudeSubsetRestriction-r16* indicates the support of amplitude subset restriction.
 	
Parameters for etype 2 R=2 (*etype2R2-r16*) supported by the UE, which are optional:
- *supportedCSI-RS-ResourceListAdd-r16*;
UE supporting *etype2R2-r16*supports also indicates support of *etype2R1-r16*.
 	
Codebook etype 2 R=1 with port selection supports 6 parameter combinations and rank 1,2. Parameters for etype 2 R=1 with port selection (*etype2R1-PortSelection-r16*) supported by the UE, which are optional:
- *supportedCSI-RS-ResourceListAdd-r16*;
- *rank3-4-r16* indicates the support of rank 3,4
 	
Parameters for etype 2 R=2 with port selection (*etype2R2-PortSelection-r16*) supported by the UE, which are optional:
- *supportedCSI-RS-ResourceListAdd-r16*;
UE supporting *etype2R2-PortSelection-r16* also indicates support of *etype2R1-PortSelection-r16*.
 	
For *supportedCSI-RS-ResourceListAdd-r16* related to the additional codebooks:
- The minimum of *maxNumberTxPortsPerResource* is '*p4*';
- The minimum value of *totalNumberTxPortsPerBand* is 4.
	Band	No	N/A	N/A

condHandover-r16 Indicates whether the UE supports conditional handover including execution condition, candidate cell configuration and maximum 8 candidate cells. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively.	Band	No	N/A	N/A
condHandoverFailure-r16 Indicates whether the UE supports conditional handover during re-establishment procedure when the selected cell is configured as candidate cell for condition handover. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively.	Band	No	N/A	N/A
condHandoverTwoTriggerEvents-r16 Indicates whether the UE supports 2 trigger events for same execution condition. This feature is mandatory supported if the UE supports *condHandover-r16*. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively.	Band	CY	N/A	N/A
condPSCellChange-r16 Indicates whether the UE supports conditional PSCell change including execution condition, candidate cell configuration and maximum 8 candidate cells. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively.	Band	No	N/A	N/A

condPSCellChangeTwoTriggerEvents-r16 Indicates whether the UE supports 2 trigger events for same execution condition. This feature is mandatory supported if the UE supports *condPSCellChange-r16*. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively.	Band	CY	N/A	N/A
configuredUL-GrantType1-v1650 Indicates whether the UE supports Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *configuredUL-GrantType1-r16* applies. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively. The UE only includes *configuredUL-GrantType1-v1650* if *configuredUL-GrantType1* is absent.	Band	No	N/A	N/A
configuredUL-GrantType2-v1650 Indicates whether the UE supports Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *configuredUL-GrantType2-r16* applies. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively. The UE only includes *configuredUL-GrantType2*-v1650 if *configuredUL-GrantType2* is absent.	Band	No	N/A	N/A
crossCarrierScheduling-SameSCS Indicates whether the UE supports cross carrier scheduling for the same numerology with carrier indicator field (CIF) in carrier aggregation where numerologies for the scheduling cell and scheduled cell are same.	Band	No	N/A	N/A
csi-ReportFramework Indicates whether the UE supports CSI report framework. This capability signalling comprises the following parameters: - *maxNumberPeriodicCSI-PerBWP-ForCSI-Report* indicates the maximum number of periodic CSI report setting per BWP for CSI report; - *maxNumberPeriodicCSI-PerBWP-ForBeamReport* indicates the maximum number of periodic CSI report setting per BWP for beam report. - *maxNumberAperiodicCSI-PerBWP-ForCSI-Report* indicates the maximum number of aperiodic CSI report setting per BWP for CSI report; - *maxNumberAperiodicCSI-PerBWP-ForBeamReport* indicates the maximum number of aperiodic CSI report setting per BWP for beam report; - *maxNumberAperiodicCSI-triggeringStatePerCC* indicates the maximum number of aperiodic CSI triggering states in *CSI-AperiodicTriggerStateList* per CC; - *maxNumberSemiPersistentCSI-PerBWP-ForCSI-Report* indicates the maximum number of semi-persistent CSI report setting per BWP for CSI report; - *maxNumberSemiPersistentCSI-PerBWP-ForBeamReport* indicates the maximum number of semi-persistent CSI report setting per BWP for beam report; - *simultaneousCSI-ReportsPerCC* indicates the number of CSI report(s) for which the UE can measure and process reference signals simultaneously in a CC of the band for which this capability is provided. The CSI report comprises periodic, semi-persistent and aperiodic CSI and any latency classes and codebook types. The CSI report in simultaneousCSI-ReportsPerCC includes the beam report and CSI report. The UE is mandated to report *csi-ReportFramework*.	Band	Yes	N/A	N/A

csi-ReportFrameworkExt-r16 Indicates whether the UE supports the extension of the maximum number of configured aperiodic CSI report settings for all codebook types. The capability signalling comprises the following: *maxNumberAperiodicCSI-PerBWP-ForCSI-ReportExt-r16* indicates the extended maximum number of aperiodic CSI report setting per BWP for CSI report. If present, the value of *maxNumberAperiodicCSI-PerBWP-ForCSI-Report-r16* shall replace the corresponding value in *csi-ReportFramework*.	Band	No	N/A	N/A
csi-RS-ForTracking Indicates support of CSI-RS for tracking (i.e. TRS). This capability signalling comprises the following parameters: - *maxBurstLength* indicates the TRS burst length. Value 1 indicates 1 slot and value 2 indicates both of 1 slot and 2 slots. In this release UE is mandated to report value 2; - *maxSimultaneousResourceSetsPerCC* indicates the maximum number of TRS resource sets per CC which the UE can track simultaneously; - *maxConfiguredResourceSetsPerCC* indicates the maximum number of TRS resource sets configured to UE per CC. It is mandated to report at least 8 for FR1 and 16 for FR2; - *maxConfiguredResourceSetsAllCC* indicates the maximum number of TRS resource sets configured to UE across CCs. If the UE includes the field in an FR1 band, it shall set the same value in all FR1 bands. If the UE includes the field in an FR2 band, it shall set the same value in all FR2 bands. The UE supports a total number of resources equal to the maximum of the FR1 and FR2 value, but no more than the FR1 value across all FR1 serving cells and no more than the FR2 value across all FR2 serving cells. The UE is mandated to report at least 16 for FR1 and 32 for FR2. The UE is mandated to report *csi-RS-ForTracking*.	Band	Yes	N/A	N/A
csi-RS-IM-ReceptionForFeedback Indicates support of CSI-RS and CSI-IM reception for CSI feedback. This capability signalling comprises the following parameters: - *maxConfigNumberNZP-CSI-RS-PerCC* indicates the maximum number of configured NZP-CSI-RS resources per CC; - *maxConfigNumberPortsAcrossNZP-CSI-RS-PerCC* indicates the maximum number of ports across all configured NZP-CSI-RS resources per CC; - *maxConfigNumberCSI-IM-PerCC* indicates the maximum number of configured CSI-IM resources per CC; - *maxNumberSimultaneousNZP-CSI-RS-PerCC* indicates the maximum number of simultaneous CSI-RS-resources per CC; - *totalNumberPortsSimultaneousNZP-CSI-RS-PerCC* indicates the total number of CSI-RS ports in simultaneous CSI-RS resources per CC. The UE is mandated to report csi-RS-IM-ReceptionForFeedback.	Band	Yes	N/A	N/A
csi-RS-ProcFrameworkForSRS Indicates support of CSI-RS processing framework for SRS. This capability signalling comprises the following parameters: - *maxNumberPeriodicSRS-AssocCSI-RS-PerBWP* indicates the maximum number of periodic SRS resources associated with CSI-RS per BWP; - *maxNumberAperiodicSRS-AssocCSI-RS-PerBWP* indicates the maximum number of aperiodic SRS resources associated with CSI-RS per BWP; - *maxNumberSP-SRS-AssocCSI-RS-PerBWP* indicates the maximum number of semi-persistent SRS resources associated with CSI-RS per BWP; - *simultaneousSRS-AssocCSI-RS-PerCC* indicates the number of SRS resources that the UE can process simultaneously in a CC, including periodic, aperiodic and semi-persistent SRS.	Band	No	N/A	N/A

defaultQCL-PerCORESETPoolIndex-r16 Indicates whether the UE supports default QCL assumption per CORESET pool index using multi-DCI based multi-TRP. The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16* and *simultaneousReceptionDiffTypeD-r16.*	Band	No	N/A	FR2 only
defaultQCL-TwoTCI-r16 Indicates whether the UE supports default QCL assumption with two TCI states using single-DCI based multi-TRP. The UE can include this field only if *simultaneousReceptionDiffTypeD-r16* is present. Otherwise, the UE does not include this field.	Band	No	N/A	FR2 only
enhancedSkipUplinkTxConfigured-v1660 Indicates whether the UE supports skipping UL transmission for a configured uplink grant only if no data is available for transmission and no UCI is multiplexed on the corresponding PUSCH of the uplink grant as specified in TS 38.321 [8]. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively. The UE only includes *enhancedSkipUplinkTxConfigured-v1660* if *enhancedSkipUplinkTxConfigured-r16* is absent.	Band	No	N/A	N/A
enhancedSkipUplinkTxDynamic-v1660 Indicates whether the UE supports skipping UL transmission for an uplink grant addressed to a C-RNTI only if no data is available for transmission and no UCI is multiplexed on the corresponding PUSCH of the uplink grant as specified in TS 38.321 [8]. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively. The UE only includes *enhancedSkipUplinkTxDynamic-v1660* if *enhancedSkipUplinkTxDynamic-r16* is absent.	Band	No	N/A	N/A
enhancedUL-TransientPeriod-r16 Indicates whether the UE supports enhanced UL performance for the transient period as specified in clause 6.3.3 of TS 38.101-1 [2]. If not reported, the UE supports transient period of 10us.	Band	No	N/A	FR1 only
extendedCP Indicates whether the UE supports 60 kHz subcarrier spacing with extended CP length for reception of PDCCH, and PDSCH, and transmission of PUCCH, PUSCH, and SRS.	Band	No	N/A	N/A
groupBeamReporting Indicates whether UE supports RSRP reporting for the group of two reference signals.	Band	No	N/A	N/A
groupSINR-reporting-r16 Indicates whether UE supports group based L1-SINR reporting. UE indicates support of this feature shall indicate support of *ssb-csirs-SINR-measurement-r16.*	Band	No	N/A	N/A
handoverUTRA-FDD-r16 Indicates whether the UE supports NR to UTRA-FDD CELL_DCH CS handover for the PCell on the band. It is mandatory to support both UTRA-FDD measurement and event B triggered reporting, and periodic UTRA-FDD measurement and reporting if the UE supports HO to UTRA-FDD. If this field is included, then UE shall support IMS voice over NR. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively.	Band	No	N/A	N/A
maxMIMO-LayersForMulti-DCI-mTRP-r16 Indicates the interpretation of *maxNumberMIMO-LayersPDSCH* for multi-DCI based mTRP. If this field is included, *maxNumberMIMO-LayersPDSCH* is interpreted as the maximum number of layers per PDSCH for multi-DCI multi-TRP operation. If this field is not included, *maxNumberMIMO-LayersPDSCH* is interpreted as the maximum number of layers across two PDSCHs if having at least one RE overlapped, for multi-DCI multi-TRP operation. The UE that indicates support of this feature shall support *overlapPDSCHsFullyFreqTime-r16*. NOTE 1: For data rate calculation in clause 4.1.2, if this feature is indicated, each multi-DCI based multi-TRP CC is counted two times toward J.	Band	No	N/A	N/A
jointReleaseConfiguredGrantType2-r16 Indicates whether the UE supports joint release in a DCI for two or more configured grant Type 2 configurations for a given BWP of a serving cell. The UE can include this feature only if the UE indicates support of *activeConfiguredGrant-r16*.	Band	No	N/A	N/A
jointReleaseSPS-r16 Indicates whether the UE supports joint release in a DCI for two or more SPS configurations for a given BWP of a serving cell. The UE can include this feature only if the UE indicates support of *sps-r16*.	Band	No	N/A	N/A
lowPAPR-DMRS-PDSCH-r16 Indicates whether the UE supports low PAPR DMRS for PDSCH.	Band	No	N/A	N/A

lowPAPR-DMRS-PUCCH-r16 Indicates whether the UE supports low PAPR DMRS for PUCCH format 3 and format 4 with transform precoding and with pi/2 BPSK modulation. UE indicates support of this feature shall indicate support of *pucch-F3-4-HalfPi-BPSK* and any combination of support of *pucch-F3-WithFH*, *pucch-F4-WithFH* and *pucch-F1-3-4WithoutFH*.	Band	No	N/A	N/A
lowPAPR-DMRS-PUSCHwithoutPrecoding-r16 Indicates whether the UE supports low PAPR DMRS for PUSCH without transform precoding.	Band	No	N/A	N/A
lowPAPR-DMRS-PUSCHwithPrecoding-r16 Indicates whether the UE supports low PAPR DMRS for PUSCH with transform precoding and with pi/2 BPSK modulation. UE indicates support of this feature shall indicate support of *pusch-HalfPi-BPSK*.	Band	No	N/A	N/A
maxNumberActivatedTCI-States-r16 Indicates maximum number of activated TCI states. This capability signalling includes the following: - *maxNumberPerCORESET-Pool-r16* indicates maximal number of activated TCI states per *CORESETPoolIndex* per BWP per CC including data and control - *maxTotalNumberAcrossCORESET-Pool-r16* indicates maximal total number of activated TCI states across *CORESETPoolIndex* per BWP per CC including data and control The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16*.	Band	No	N/A	N/A
maxNumberCSI-RS-BFD Indicates maximal number of CSI-RS resources across all CCs, and across MCG and SCG in case of NR-DC, for UE to monitor PDCCH quality. In this release, the maximum value that can be signalled is 16. If the UE includes the field in an FR1 band, it shall set the same value in all FR1 bands. If the UE includes the field in an FR2 band, it shall set the same value in all FR2 bands. The UE supports a total number of resources equal to the maximum of the FR1 and FR2 value, but no more than the FR1 value across all FR1 serving cells and no more than the FR2 value across all FR2 serving cells. It is mandatory with capability signalling for FR2 and optional for FR1.	Band	CY	N/A	N/A
maxNumberCSI-RS-SSB-CBD Defines maximal number of different CSI-RS [and/or SSB] resources across all CCs, and across MCG and SCG in case of NR-DC, for new beam identifications. In this release, the maximum value that can be signalled is 128. If the UE includes the field in an FR1 band, it shall set the same value in all FR1 bands. If the UE includes the field in an FR2 band, it shall set the same value in all FR2 bands. The UE supports a total number of resources equal to the maximum of the FR1 and FR2 value, but no more than the FR1 value across all FR1 serving cells and no more than the FR2 value across all FR2 serving cells. It is mandatory with capability signalling for FR2 and optional for FR1. The UE is mandated to report at least 32 for FR2.	Band	CY	N/A	N/A
maxNumberNonGroupBeamReporting Defines support of non-group based RSRP reporting using N_max RSRP values reported.	Band	Yes	N/A	N/A
maxNumberRxBeam Defines whether UE supports receive beamforming switching using NZP CSI-RS resource. UE shall indicate a single value for the preferred number of NZP CSI-RS resource repetitions per CSI-RS resource set. Support of Rx beam switching is mandatory for FR2.	Band	CY	N/A	N/A
maxNumberRxTxBeamSwitchDL Defines the number of Tx and Rx beam changes UE can perform on this band within a slot. UE shall report one value per each subcarrier spacing supported by the UE. In this release, the number of Tx and Rx beam changes for scs-15kHz and scs-30kHz are not included.	Band	No	N/A	FR2 only
maxNumberSCellBFR-r16 Defines the maximum number of SCells configured for SCell beam failure recovery simultaneously. The UE indicating support of this also indicates the capabilities of *maxNumberCSI-RS-BFD, maxNumberSSB-BFD* and *maxNumberCSI-RS-SSB-CBD.*	Band	No	N/A	N/A

maxNumberSSB-BFD Defines maximal number of different SSBs across all CCs, and across MCG and SCG in case of NR-DC, for UE to monitor PDCCH quality. In this release, the maximum value that can be signalled is 16. If the UE includes the field in an FR1 band, it shall set the same value in all FR1 bands. If the UE includes the field in an FR2 band, it shall set the same value in all FR2 bands. The UE supports a total number of resources equal to the maximum of the FR1 and FR2 value, but no more than the FR1 value across all FR1 serving cells and no more than the FR2 value across all FR2 serving cells. It is mandatory with capability signalling for FR2 and optional for FR1.	Band	CY	N/A	N/A
maxUplinkDutyCycle-PC2-FR1 Indicates the maximum percentage of symbols during a certain evaluation period that can be scheduled for uplink transmission so as to ensure compliance with applicable electromagnetic energy absorption requirements provided by regulatory bodies. This field is only applicable for FR1 power class 2 UE as specified in clause 6.2.1 of TS 38.101-1 [2]. If the field is absent, 50% shall be applied. Value n60 corresponds to 60%, value n70 corresponds to 70% and so on. This capability is not applicable to IAB-MT.	Band	No	N/A	FR1 only
maxUplinkDutyCycle-FR2 Indicates the maximum percentage of symbols during 1s that can be scheduled for uplink transmission at the UE maximum transmission power, so as to ensure compliance with applicable electromagnetic power density exposure requirements provided by regulatory bodies. This field is applicable for all power classes UE in FR2 as specified in TS 38.101-2 [3]. Value n15 corresponds to 15%, value n20 corresponds to 20% and so on. If the field is absent or the percentage of uplink symbols transmitted within any 1s evaluation period is larger than *maxUplinkDutyCycle-FR2*, the UE behaviour is specified in TS 38.101-2 [3]. This capability is not applicable to IAB-MT.	Band	No	N/A	FR2 only
maxUplinkDutyCycle-PC1dot5-MPE-FR1-r16 Indicates the maximum percentage of symbols during a certain evaluation period that can be scheduled for uplink transmission so as to ensure compliance with applicable electromagnetic energy absorption requirements provided by regulatory bodies. This field is only applicable for FR1 power class 1.5 UE as specified in clause 6.2.1 of TS 38.101-1 [2]. If the field is absent, UE shall mitigate MPE autonomously by P-MPR or by other means and no restriction on scheduled uplink duty cycle is needed.	Band	No	N/A	FR1 only
modifiedMPR-Behaviour Indicates whether UE supports modified MPR behaviour defined in TS 38.101-1 [2] and TS 38.101-2 [3].	Band	No	N/A	N/A
mpr-PowerBoost-FR2-r16 Indicates whether UE supports uplink transmission power boost by suspension of in-band emission (IBE) requirements as specified in TS 38.101-2 [3].	Band	No	TDD only	FR2 only
multipleRateMatchingEUTRA-CRS-r16 Indicates whether the UE supports multiple E-UTRA CRS rate matching patterns, which is supported only for FR1. The capability signalling comprises the following parameters: - *maxNumberPatterns-r16* indicates the maximum number of LTE-CRS rate matching patterns in total within a NR carrier using 15 kHz SCS. The UE can report the value larger than 2 only if UE reports the value of *maxNumberNon-OverlapPatterns-r16* is larger than 1. - *maxNumberNon-OverlapPatterns-r16* indicates the maximum number of LTE-CRS non-overlapping rate matching patterns within a NR carrier using 15 kHz SCS. The UE can include this feature only if the UE indicates support of *rateMatchingLTE-CRS*.	Band	No	N/A	FR1 only
multipleTCI Indicates whether UE supports more than one TCI state configurations per CORESET. UE is only required to track one active TCI state per CORESET. UE is required to support minimum between 64 and number of configured TCI states indicated by *tci-StatePDSCH*. This field shall be set to *supported*.	Band	Yes	N/A	N/A
nonGroupSINR-reporting-r16 Indicates N_max L1-SINR values reported when UE supports non-group based L1-SINR reporting. UE indicates support of this feature shall indicate support of *ssb-csirs-SINR-measurement-r16.*	Band	No	N/A	N/A

olpc-SRS-Pos-r16 Indicates whether the UE supports OLPC for SRS for positioning. The capability signalling comprises the following parameters. - *olpc-SRS-PosBasedOnPRS-Serving-r16* indicates whether the UE supports OLPC for SRS for positioning based on PRS from the serving cell in the same band. The UE can include this field only if the UE supports *NR-DL-PRS-ProcessingCapability-r16* defined in TS 37.355 [22], and *srs-PosResources-r16*. Otherwise, the UE does not include this field; - *olpc-SRS-PosBasedOnSSB-Neigh-r16* indicates whether the UE supports OLPC for SRS for positioning based on SSB from the neighbouring cell in the same band. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field; - *olpc-SRS-PosBasedOnPRS-Neigh-r16* indicates whether the UE supports OLPC for SRS for positioning based on PRS from the neighbouring cell in the same band. The UE can include this field only if the UE supports *olpc-SRS-PosBasedOnPRS-Serving-r16*. Otherwise, the UE does not include this field; NOTE: A PRS from a PRS-only TP is treated as PRS from a non-serving cell. - *maxNumberPathLossEstimatePerServing-r16* indicates the maximum number of pathloss estimates that the UE can simultaneously maintain for all the SRS resource sets for positioning per serving cell in addition to the up to four pathloss estimates that the UE maintains per serving cell for the PUSCH/PUCCH/SRS transmissios. The UE shall include this field if the UE supports any of *olpc-SRS-PosBasedOnPRS-Serving-r16, olpc-SRS-PosBasedOnSSB-Neigh-r16* and *olpc-SRS-PosBasedOnPRS-Neigh-r16.* Otherwise, the UE does not include this field.	Band	No	N/A	N/A
oneSlotPeriodicTRS-r16 Indicates whether the UE supports one-slot periodic TRS configuration only when no two consecutive slots are indicated as downlink slots by *tdd-UL-DL-ConfigurationCommon* or *tdd-UL-DL-ConfigDedicated*. If the UE supports this feature, the UE needs to report *csi-RS-ForTracking*.	Band	No	TDD only	FR1 only
outOfOrderOperationDL-r16 Indicates whether the UE supports out of order operation for DL. The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16*. The capability signalling comprises the following parameters: - *supportPDCCH-ToPDSCH-r16* indicates support out-of-order operation for PDCCH to PDSCH; - *supportPDSCH-ToHARQ-ACK-r16* indicates support out-of-order operation for PDSCH to HARQ-ACK.	Band	No	N/A	N/A
outOfOrderOperationUL-r16 Indicates whether the UE supports out of order operation for UL. The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16.* Note: Same closed loop index for power control across PUSCHs associated with different *CORESETPoolIndex* values is not supported by a UE indicating the support of this feature when TPC accumulation is enabled.	Band	No	N/A	N/A
overlapPDSCHsFullyFreqTime-r16 Indicates the maximal number of PDSCH scrambling sequences per serving cell when the UE supports PDSCHs with fully overlapping Resource Elements. The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16.* Note: A UE may assume that its maximum receive timing difference between the DL transmissions from two TRPs is within a Cyclic Prefix	Band	No	N/A	N/A
overlapPDSCHsInTimePartiallyFreq-r16 Indicates whether the UE supports PDSCHs with partially overlapping Resource Elements. The UE that indicates support of this feature shall support *overlapPDSCHsFullyFreqTime-r16.*	Band	No	N/A	N/A
overlapRateMatchingEUTRA-CRS-r16 Indicates whether the UE supports two LTE-CRS overlapping rate matching patterns within a part of NR carrier using 15 kHz SCS overlapping with a LTE carrier. If the UE supports this feature, the UE needs to report *multipleRateMatchingEUTRA-CRS-r16*.	Band	No	N/A	FR1 only

pdsch-256QAM-FR2 Indicates whether the UE supports 256QAM modulation scheme for PDSCH for FR2 as defined in 7.3.1.2 of TS 38.211 [6].	Band	No	N/A	FR2 only
pdsch-MappingTypeB-Alt-r16 Indicates whether the UE supports PDSCH Type B scheduling of length 9 and 10 OFDM symbols, and DMRS shift for length-10 symbols. If the UE supports this feature, the UE needs to report *pdsch-MappingTypeB*.	Band	No	N/A	FR1 only
periodicBeamReport Indicates whether UE supports periodic 'CRI/RSRP' or 'SSBRI/RSRP' reporting using PUCCH formats 2, 3 and 4 in one slot.	Band	Yes	N/A	N/A
powerBoosting-pi2BPSK Indicates whether UE supports power boosting for pi/2 BPSK, when applicable as defined in 6.2 of TS 38.101-1 [2]. This capability is not applicable to IAB-MT.	Band	No	TDD only	FR1 only
ptrs-DensityRecommendationSetDL For each supported sub-carrier spacing, indicates preferred threshold sets for determining DL PTRS density. It is mandated for FR2. For each supported sub-carrier spacing, this field comprises: - two values of *frequencyDensity*; - three values of *timeDensity*.	Band	CY	N/A	N/A
ptrs-DensityRecommendationSetUL For each supported sub-carrier spacing, indicates preferred threshold sets for determining UL PTRS density. For each supported sub-carrier spacing, this field comprises: - two values of *frequencyDensity*; - three values of *timeDensity*; - five values of *sampleDensity*.	Band	No	N/A	N/A
pucch-SpatialRelInfoMAC-CE Indicates whether the UE supports indication of *PUCCH-spatialrelationinfo* by a MAC CE per PUCCH resource. It is mandatory for FR2 and optional for FR1.	Band	CY	N/A	N/A
pusch-256QAM Indicates whether the UE supports 256QAM modulation scheme for PUSCH as defined in 6.3.1.2 of TS 38.211 [6].	Band	No	N/A	N/A
pusch-RepetitionMultiSlots-v1650 Indicates whether the UE supports transmitting PUSCH scheduled by DCI format 0_1 when configured with higher layer parameter *pusch-AggregationFactor* > 1, as defined in clause 6.1.2.1 of TS 38.214 [12]. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *pusch-RepetitionMultiSlots-r16* applies. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively. The UE only includes *pusch-RepetitionMultiSlots-v1650* if *pusch-RepetitionMultiSlots* is absent.	Band	Yes	N/A	N/A
pusch-TransCoherence Defines support of the uplink codebook subset by the UE for UL precoding for PUSCH transmission as described in clause 6.1.1.1 of TS 38.214 [12]. UE indicated support of partial coherent codebook subset shall also support non-coherent codebook subset. UE indicated support of full coherent codebook subset shall also support partial and non-coherent codebook subset.	Band	No	N/A	N/A
rateMatchingLTE-CRS Indicates whether the UE supports receiving PDSCH with resource mapping that excludes the REs determined by the higher layer configuration LTE-carrier configuring common RS, as specified in TS 38.214 [12].	Band	Yes	N/A	N/A
separateCRS-RateMatching-r16 Indicates whether the UE supports rate match around configured CRS patterns which is associated with *CORESETPoolIndex* (if configured) and are applied to the PDSCH scheduled with a DCI detected on a CORESET with the same value of *CORESETPoolIndex*. The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16* and *overlapRateMatchingEUTRA-CRS-r16.* This is only applicable for 15kHz SCS.	Band	No	N/A	FR1 only

semi-PersistentL1-SINR-Report-PUCCH-r16 Indicates whether the UE supports semi-persistent L1-SINR report on PUCCH. The UE indicating support of this feature shall include at least one of the following capabilities: - *supportReportFormat1-2OFDM-syms-r16* indicates support of report on PUCCH formats over 1 – 2 OFDM symbols once per slot (or piggybacked on a PUSCH) - *supportReportFormat4-14OFDM-syms-r16* indicates support of report on PUCCH formats over 4 – 14 OFDM symbols once per slot (or piggybacked on a PUSCH). The UE indicating support of this feature shall also indicate support of *ssb-csirs-SINR-measurement-r16.*	Band	No	N/A	N/A
semi-PersistentL1-SINR-Report-PUSCH-r16 Indicates whether the UE supports semi-persistent L1-SINR report on PUSCH. The UE indicating support of this feature shall also indicate support of *ssb-csirs-SINR-measurement-r16.*	Band	No	N/A	N/A
simul-SpatialRelationUpdatePUCCHResGroup-r16 Indicates whether the UE support PUCCH resource groups per BWP for simultaneous spatial relation update. The UE indicating support of this also indicates the capabilities of supported SRS resources and maximum supported spatial relations for the supported bands using *supportedSRS-Resources, maxNumberConfiguredSpatialRelations* and *pucch-SpatialRelInfoMAC-CE*.	Band	No	N/A	N/A
simulTX-SRS-AntSwitchingIntraBandUL-CA-r16 Indicates whether the UE support simultaneous transmission of SRS on different CCs for intra-band UL CA. The UE indicating support of this feature shall include at least one of the following capabilities: - *supportSRS-xTyR-xLessThanY-r16* indicates support transmission of SRS for xTyR (x<y) based antenna switching and SRS for CB/NCB/BM on different CCs in overlapped symbol(s) for intra-band UL CA. - *supportSRS-xTyR-xEqualToY-r16* indicates support transmission of SRS for xTyR (x=y) based antenna switching and SRS for CB/NCB/BM on different CCs in overlapped symbol(s) for intra-band UL CA. - *supportSRS-AntennaSwitching-r16* Indicates whether the UE support simultaneous transmission of SRS for antenna switching on different CCs in overlapped symbol(s) for intra-band UL CA. NOTE: For simultaneously antenna switching and antenna switching SRS in intra-band CAs with bands whose UL are switched together according to the reported *supportSRS-AntennaSwitching-r16*, the UE expects the same configuration of xTyR across the different CCs and the SRS resources overlapped in time domain from UE perspective are from the same UE antenna ports.	Band	No	N/A	N/A
simulSRS-MIMO-TransWithinBand-r16 Indicates the number of SRS resources for positioning and SRS resource for MIMO on a symbol within a band across multiple CCs. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field.	Band	No	N/A	N/A
simulSRS-TransWithinBand-r16 Indicates the number of SRS resources for positioning on a symbol within a band across multiple CCs. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field.	Band	No	N/A	N/A
simultaneousReceptionDiffTypeD-r16 Indicates whether the UE supports simultaneous reception with different QCL Type D reference signal as specified in TS38.213 [11].	Band	No	N/A	FR2 only

spatialRelations, spatialRelations-v1640 Indicates whether the UE supports spatial relations. The capability signalling comprises the following parameters. - *maxNumberConfiguredSpatialRelations* indicates the maximum number of configured spatial relations per CC for PUCCH and SRS. It is not applicable to FR1 and applicable to FR2 only. The UE is mandated to report 16 or higher values. *maxNumberConfiguredSpatialRelations-v1640* indicates the maximum number of configured spatial relations per CC for PUCCH and SRS with UE supporting the configuration of maximum 64 PUCCH spatial relations per BWP per CC; - *maxNumberActiveSpatialRelations* indicates the maximum number of active spatial relations with regarding to PUCCH and SRS for PUSCH, per BWP per CC. It is not applicable to FR1 and applicable and mandatory to report one or higher value for FR2 only; - *additionalActiveSpatialRelationPUCCH* indicates support of one additional active spatial relation for PUCCH. It is mandatory with capability signalling if *maxNumberActiveSpatialRelations* is set to n1; - *maxNumberDL-RS-QCL-TypeD* indicates the maximum number of downlink RS resources used for QCL type D in the active TCI states and active spatial relation information, which is optional. The UE is mandated to report *spatialRelations* for FR2. if *maxNumberConfiguredSpatialRelations-v1640* is reported, UE shall report value *n96* in *maxNumberConfiguredSpatialRelations*.	Band	FD	N/A	FD
spatialRelationsSRS-Pos-r16 Indicates whether the UE supports spatial relations for SRS for positioning. The capability signalling comprises the following parameters. - *spatialRelation-SRS-PosBasedOnSSB-Serving-r16* indicates whether the UE supports spatial relation for SRS for positioning based on SSB from the serving cell in the same band. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field; - *spatialRelation-SRS-PosBasedOnCSI-RS-Serving-r16* indicates whether the UE supports spatial relation for SRS for positioning based on CSI-RS from the serving cell in the same band. The UE can include this field only if the UE supports *spatialRelation-SRS-PosBasedOnSSB-Serving-r16*. Otherwise, the UE does not include this field; - *spatialRelation-SRS-PosBasedOnPRS-Serving-r16* indicates whether the UE supports spatial relation for SRS for positioning based on PRS from the serving cell in the same band. The UE can include this field only if the UE supports any of DL PRS Resources for DL AoD, DL PRS Resources for DL-TDOA or DL PRS Resources for Multi-RTT defined in TS37.355 [22], or *srs-PosResources-r16*. Otherwise, the UE does not include this field; - *spatialRelation-SRS-PosBasedOnSRS-r16* indicates whether the UE supports spatial relation for SRS for positioning based on SRS in the same band. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field; - *spatialRelation-SRS-PosBasedOnSSB-Neigh-r16* indicates whether the UE supports spatial relation for SRS for positioning based on SSB from the neighbouring cell in the same band. The UE can include this field only if the UE supports *spatialRelation-SRS-PosBasedOnSSB-Serving-r16*. Otherwise, the UE does not include this field; - *spatialRelation-SRS-PosBasedOnPRS-Neigh-r16* indicates whether the UE supports spatial relation for SRS for positioning based on PRS from the neighbouring cell in the same band. The UE can include this field only if the UE supports *spatialRelation-SRS-PosBasedOnPRS-Serving-r16*. Otherwise, the UE does not include this field; NOTE: A PRS from a PRS-only TP is treated as PRS from a non-serving cell.	Band	No	N/A	FR2 only

sp-BeamReportPUCCH Indicates support of semi-persistent 'CRI/RSRP' or 'SSBRI/RSRP' reporting using PUCCH formats 2, 3 and 4 in one slot.	Band	No	N/A	N/A
sp-BeamReportPUSCH Indicates support of semi-persistent 'CRI/RSRP' or 'SSBRI/RSRP' reporting on PUSCH.	Band	No	N/A	N/A
sps-r16 Indicates whether the UE support of up to 8 configured SPS configurations in a BWP of a serving cell and up to 32 configured SPS configurations in a cell group. This field includes the following parameters: - *maxNumberConfigsPerBWP-r16* indicates the maximum number of active SPS configurations in a BWP of a serving cell. - *maxNumberConfigsAllCC-r16* indicates the maximum number of active SPS configurations across all serving cells in a MAC entity, and across MCG and SCG in case of NR-DC. The UE can include this feature only if the UE indicates support of *downlinkSPS*. NOTE: - For all the reported bands in FR1, a same X1 value is reported for *maxNumberConfigsAllCC-r16*. For all the reported bands in FR2, a same X2 value is reported for *maxNumberConfigsAllCC-r16*. - The total number of active SPS configurations across all serving cells in FR1 is no greater than X1. - The total number of active SPS configurations across all serving cells in FR2 is no greater than X2. - If the CA have some serving cell(s) in FR1 and some serving cell(s) in FR2, the total number of active SPS configurations across all serving cells is no greater than max(X1, X2).	Band	No	N/A	N/A
srs-AssocCSI-RS Parameters for the calculation of the precoder for SRS transmission based on channel measurements using associated NZP CSI-RS resource (srs-AssocCSI-RS) as described in clause 6.1.1.2 of TS 38.214 [12]. UE supporting this feature shall also indicate support of non-codebook based PUSCH transmission. This capability signalling includes list of the following parameters: - *maxNumberTxPortsPerResource* indicates the maximum number of Tx ports in a resource; - *maxNumberResourcesPerBand* indicates the maximum number of resources across all CCs within a band simultaneously; - *totalNumberTxPortsPerBand* indicates the total number of Tx ports across all CCs within a band simultaneously.	Band	No	N/A	N/A

ssb-csirs-SINR-measurement-r16
Indicates the limitations of the UE support of SSB/CSI-RS for L1-SINR measurement.
This capability signalling includes list of the following parameters:
Per slot limitations:
- *maxNumberSSB-CSIRS-OneTx-CMR-r16* indicates the maximum number of SSB/CSI-RS (1TX) across all CCs within a band for Channel Measurement Report
- *maxNumberCSI-IM-NZP-IMR-res-r16* indicates the maximum number of CSI-IM/NZP-IMR resources across all CCs within a band
- maxNumberCSIRS-2Tx-res-r16 indicates the maximum number of CSI-RS (2TX) resources across all CCs within a band for Channel Measurement Report
Memory limitations:
- *maxNumberSSB-CSIRS-res-r16* indicates the max number of SSB/CSI-RS resources across all CCs within a band as Channel Measurement Report
- *maxNumberCSI-IM-NZP-IMR-res-mem-r16* indicates the maximum number of CSI-IM/NZP-IMR resources across all CCs within a band
Other limitations:
- *supportedCSI-RS-Density-CMR-r16* indicates supported density of CSI-RS for Channel Measurement Report.
- *maxNumberAperiodicCSI-RS-Res-r16* indicates the maximum number of aperiodic CSI-RS resources across all CCs within a band configured to measure L1-SINR (including CMR and IMR)
- *supportedSINR-meas* indicates the supported SINR measurements.
  - *supportedSINR-meas-r16* contains values {*ssbWithCSI-IM*, *ssbWithNZP-IMR*, *csirsWithNZP-IMR*, *csi-RSWithoutIMR*} representing {SSB as CMR with dedicated CSI-IM, SSB as CMR with dedicated NZP IMR, CSI-RS as CMR with dedicated NZP IMR configured, CSI-RS as CMR without dedicated IMR configured}.
  - *supportedSINR-meas-v1670* indicates a 4-bit bitmap {ssbWithCSI-IM, ssbWithNZP-IMR, csirsWithNZP-IMR, csi-RSWithoutIMR}, where the leftmost bit corresponds to ssbWithCSI-IM, the next bit corresponds to ssbWithNZP-IMR and so on. UE indicating *supportedSINR-meas-v1670* shall always indicate *supportedSINR-meas-r16.*
UE supporting this feature shall also indicate support of CSI-RS as CMR with dedicated CSI-IM. UE indicating support of this feature shall also indicate support of *periodicBeamReport* and *aperiodicBeamReport* or *sp-BeamReportPUCCH* and *sp-BeamReportPUSCH.* UE indicating support of *ssb-csirs-SINR-measurement-r16* shall support periodic and aperiodic L1-SINR report.
 	
NOTE 1: The reference slot duration is the shortest slot duration defined for the frequency range where the reported band belongs.
NOTE 2: For *maxNumberSSB-CSIRS-res-r16* and *maxNumberCSI-IM-NZP-IMR-res-mem-r16* the configured CSI-RS resources for both active and inactive BWPs are counted.
NOTE 3: For *maxNumberSSB-CSIRS-OneTx-CMR-r16, maxNumberCSI-IM-NZP-IMR-res-r16* and *maxNumberCSIRS-2Tx-res-r16*, CSI-RS resources configured as CMR without dedicated IMR are counted both as CMR and IMR.
NOTE 4: For *maxNumberSSB-CSIRS-OneTx-CMR-r16*, *maxNumberCSI-IM-NZP-IMR-res-r16*, *maxNumberCSIRS-2Tx-res-r16*, *maxNumberAperiodicCSI-RS-Res-r16*, a SSB/CSI-RS resource is counted within the duration of a reference slot in which the corresponding reference signals are transmitted.
NOTE 5: For *maxNumberSSB-CSIRS-OneTx-CMR-r16*, *maxNumberCSI-IM-NZP-IMR-res-r16*, *maxNumberCSIRS-2Tx-res-r16*, *maxNumberAperiodicCSI-RS-Res-r16*, if one resource used for L1-SINR measurement is referred N times by one or more CSI reporting settings with *reportQuantity-r16* = *ssb-Index-SINR-r16* or *cri-SINR-r16*, it is counted N times.
NOTE 6: If more than one type of SINR measurement is indicated in *supportedSINR-meas-v1670*, it is left to UE implementation which SINR measurement to indicate in *supportedSINR-meas-r16*.
	Band	No	N/A	N/A

support64CandidateBeamRS-BFR-r16 Indicates UE support of configuring maximum 64 candidate beam RSs per BWP per CC. UE indicating support of this feature shall also indicate support of *maxNumberCSI-RS-BFD, maxNumberSSB-BFD* and *maxNumberCSI-RS-SSB-CBD.*	Band	No	N/A	N/A

supportCodeWordSoftCombining-r16 Indicates whether UE supports codeword soft combining for FDMSchemeB. UE indicates support of this feature depends on whether the *supportFDM-SchemeB-r16* is also supported.	Band	No	N/A	N/A
supportFDM-SchemeA-r16 Indicates whether UE supports single DCI based FDMSchemeA.	Band	No	N/A	N/A
supportInter-slotTDM-r16 Indicates whether UE supports single-DCI based inter-slot TDM. This capability signalling includes the following: - *supportRepNumPDSCH-TDRA-r16* indicates support of RepNumR16 in PDSCH-TimeDomainResourceAllocation and the maximum value of RepNumR16 - *maxTBS-Size-r16* indicates maximum TBS size. - *maxNumberTCI-states-r16* indicates the maximum number of TCI states.	Band	No	N/A	N/A
supportNewDMRS-Port-r16 Indicates whether UE supports new DMRS port entry {0,2,3}. UE supports this feature should indicate support *singleDCI-SDM-scheme-r16* for the band.	Band	No	N/A	N/A
supportTDM-SchemeA-r16 Indicates whether UE supports single DCI based TDMSchemeA. The capability signalling includes the maximum TBS size.	Band	No	N/A	N/A
supportTwoPortDL-PTRS-r16 Indicates whether UE supports 2-port DL PT-RS. UE supports this feature should indicate support *singleDCI-SDM-scheme-r16* for the band.	Band	No	N/A	n/A
tci-StatePDSCH Defines support of TCI-States for PDSCH. The capability signalling comprises the following parameters: - *maxNumberConfiguredTCIstatesPerCC* indicates the maximum number of configured TCI-states per CC for PDSCH. For FR2, the UE is mandated to set the value at least to 64 (i.e. value 128 is an optional value). For FR1, the UE is mandated to set these values at least to the maximum number of allowed SSBs in the supported band; - *maxNumberActiveTCI-PerBWP* indicates the maximum number of activated TCI-states per BWP per CC, including control and data. If a UE reports X active TCI state(s), it is not expected that more than X active QCL type D assumption(s) for any PDSCH and any CORESETs for a given BWP of a serving cell become active for the UE. The UE shall include this field. Note the UE is required to track only the active TCI states. The UE is mandated to report *tci-StatePDSCH*.	Band	Yes	N/A	N/A
trs-AdditionalBandwidth-r16 Indicates the UE supported TRS bandwidths, in addition to 52 RBs, for a 10MHz UE channel bandwidth. This field only applies for the BWPs configured with 52 RBs size and 15kHz SCS, in FDD bands. Value *trs-AddBW-Set1* indicates 28, 32, 36, 40, 44, 48 RBs. Value *trs-AddBW-Set2* indicates 32, 36, 40, 44, 48 RBs.	Band	No	FDD only	FR1 only
twoPortsPTRS-UL Defines whether UE supports PT-RS with 2 antenna ports for UL transmission.	Band	No	N/A	N/A
type1-PUSCH-RepetitionMultiSlots-v1650 Indicates whether the UE supports Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value equal to 2, 4, or 8 with a single repetition of the transport block within each slot, and redundancy version pattern as indicated by UL-TWG-RV-rep. A UE supporting this feature shall also support Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *type1-PUSCH-RepetitionMultiSlots-r16* applies. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively. The UE only includes *type1-PUSCH-RepetitionMultiSlots-v1650* if *type1-PUSCH-RepetitionMultiSlots* is absent	Band	No	N/A	N/A

type2-PUSCH-RepetitionMultiSlots-v1650 Indicates whether the UE supports Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value equal to 2, 4, or 8 with a single repetition of the transport block within each slot, and redundancy version pattern as indicated by UL-TWG-RV-rep. A UE supporting this feature shall also support Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *type2-PUSCH-RepetitionMultiSlots-r16* applies. UE shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively. The UE only includes *type2-PUSCH-RepetitionMultiSlots-v1650* if *type2-PUSCH-RepetitionMultiSlots* is absent	Band	No	N/A	N/A
txDiversity-r16 Indicates whether the UE supports transparent Tx diversity requirements as specified in the suffix G clauses of TS 38.101-1 [2] (see also clauses 4.2 and 4.3 of TS38.101-1 [2]).	Band	No	N/A	FR1 only
ue-PowerClass, ue-PowerClass-v1610 For FR1, if the UE supports the different UE power class than the default UE power class as defined in clause 6.2 of TS 38.101-1 [2], the UE shall report the supported UE power class in this field. For FR2, UE shall report the supported UE power class as defined in clause 6 and 7 of TS 38.101-2 [3] in this field. This capability is not applicable to IAB-MT.	Band	Yes	N/A	N/A
uplinkBeamManagement Defines support of beam management for UL. This capability signalling comprises the following parameters: - *maxNumberSRS-ResourcePerSet-BM* indicates the maximum number of SRS resources per SRS resource set configurable for beam management, supported by the UE. - *maxNumberSRS-ResourceSet* indicates the maximum number of SRS resource sets configurable for beam management, supported by the UE. If the UE does not set *beamCorrespondenceWithoutUL-BeamSweeping* to *supported*, the UE shall report this capability. This feature is optional for the UE that supports beam correspondence without uplink beam sweeping as defined in clause 6.6, TS 38.101-2 [3]. NOTE: The network uses *maxNumberSRS-ResourceSet* to determine the maximum number of SRS resource sets that can be configured to the UE for periodic/semi-persistent/aperiodic configurations as below:	Band	No	N/A	FR2 only

Maximum number of SRS resource sets across all time domain behaviour (periodic/semi-persistent/aperiodic) reported in *maxNumberSRS-ResourceSet*	**Additional constraint on the maximum number of SRS resource sets configured to the UE for each supported time domain behaviour (periodic/semi-persistent/aperiodic)**
1	1
2	1
3	1
4	2
5	2
6	2
7	4
8	4

4.2.7.2a *SharedSpectrumChAccessParamsPerBand*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
ul-DynamicChAccess-r16 Indicates whether the UE supports UL channel access for dynamic channel access mode. Support of this feature is mandatory if UE supports any of the deployment scenarios A.2, B, C, D and E in Annex B.3 of TS 38.300 [28] with dynamic channel access mode.	Band	CY	N/A	N/A
ul-Semi-StaticChAccess-r16 Indicates whether the UE supports UL channel access for semi-static channel access mode. Support of this feature is mandatory if UE supports any of the deployment scenarios A.2, B, C, D and E in Annex B.3 of TS 38.300 [28] with semi-static channel access mode.	Band	CY	N/A	N/A
ssb-RRM-DynamicChAccess-r16 Indicates whether the UE supports SSB-based RRM for dynamic channel access mode. Support of this feature is mandatory if UE supports any of the deployment scenarios A.1, A.2, B, C, D and E in Annex B.3 of TS 38.300 [28] with dynamic channel access mode.	Band	CY	N/A	N/A
ssb-RRM-Semi-StaticChAccess-r16 Indicates whether the UE supports SSB-based RRM for semi-static channel access mode, when SMTC window is no longer than the fixed frame period. Support of this feature is mandatory if UE supports any of the deployment scenarios A.1, A.2, B, C, D and E in Annex B.3 of TS 38.300 [28] with semi-static channel access mode.	Band	CY	N/A	N/A
mib-Acquisition-r16 Indicates whether the UE supports acquiring MIB on an unlicensed cell for SpCell. Support of this feature is mandatory if UE supports any of the deployment scenarios B, C, D and E in Annex B.3 of TS 38.300 [28].	Band	CY	N/A	N/A
ssb-RLM-DynamicChAccess-r16 Indicates whether the UE supports SSB-based RLM for dynamic channel access mode. Support of this feature is mandatory if UE supports any of the deployment scenarios B, C, D and E in Annex B.3 of TS 38.300 [28] with dynamic channel access mode.	Band	CY	N/A	N/A
ssb-RLM-Semi-StaticChAccess-r16 Indicates whether the UE supports SSB-based RLM for semi-static channel access mode, when discovery burst transmission window is no longer than the fixed frame period. Support of this feature is mandatory if UE supports any of the deployment scenarios B, C, D and E in Annex B.3 of TS 38.300 [28] with semi-static channel access mode.	Band	CY	N/A	N/A
sib1-Acquisition-r16 Indicates whether the UE supports acquiring SIB1 on an unlicensed cell for PCell. Support of this feature is mandatory if UE supports any of the deployment scenarios C and D in Annex B.3 of TS 38.300 [28].	Band	CY	N/A	N/A
extRA-ResponseWindow-r16 Indicates whether the UE supports the configuration of maximum length of RAR window with a value larger than 10ms and up to 40ms by decoding of the 2 LSBs of SFN in the DCI format 1_0 for 4-step RA type. Support of this feature is mandatory if the UE supports any of the deployment scenarios B, C, D and E in Annex B.3 of TS 38.300 [28].	Band	CY	N/A	N/A
ssb-BFD-CBD-dynamicChannelAccess-r16 Indicates whether the UE supports SSB based Beam Failure Detection and Candidate Beam Detection with N_{SSB}^{QCL} for dynamic channel access mode.	Band	No	N/A	N/A
ssb-BFD-CBD-semi-staticChannelAccess-r16 Indicates whether the UE supports SSB based Beam Failure Detection and Candidate Beam Detection with N_{SSB}^{QCL} for semi-static channel access mode.	Band	No	N/A	N/A
csi-RS-BFD-CBD-r16 Indicates whether the UE supports CSI-RS based Beam Failure Detection and Candidate Beam Detection for shared spectrum operation.	Band	No	N/A	N/A
ul-ChannelBW-SCell-10mhz-r16 Indicates whether the UE supports 10 MHz of LBT bandwidth for an SCell. A UE that supports this feature shall also support *ul-DynamicChAccess-r16* or *ul-Semi-StaticChAccess-r16*.	Band	No	N/A	N/A

rssi-ChannelOccupancyReporting-r16 Indicates whether the UE supports RSSI measurements and channel occupancy reporting.	Band	No	N/A	N/A
srs-StartAnyOFDM-Symbol-r16 Indicates whether the UE supports transmitting SRS starting in all symbols (0 to 13) of a slot. This capability is also applicable to a frequency band that does not require shared spectrum access.	Band	No	N/A	N/A
searchSpaceFreqMonitorLocation-r16 Indicates the maximum number of frequency domain locations supported by the UE, for a search space set configuration with *freqMonitorLocations-r16*.	Band	No	N/A	N/A
coreset-RB-Offset-r16 Indicates whether the UE supports CORESET configuration with *rb-Offset-r16*. This capability is also applicable to a frequency band that does not require shared spectrum access.	Band	No	N/A	N/A
cgi-Acquisition-r16 Indicates whether the UE supports acquisition of CGI information from a neighbouring NR unlicensed cell in an unlicensed carrier by reading SIB1 of the neighbouring unlicensed cell and reporting the acquired information to the network.	Band	No	N/A	N/A
configuredUL-Tx-r16 Indicates whether the UE supports configuration of enableConfiguredUL-r16 and enable transmission of higher-layer configured UL (SRS, PUCCH, CG-PUSCH, etc) when SFI field in DCI 2_0 is configured but DCI 2_0 is not detected.	Band	No	N/A	N/A
prach-Wideband-r16 Indicates whether the UE supports enhanced PRACH design for operation with shared spectrum channel access by adopting a single long ZC sequence, with ZC sequence = 1151 for 15 kHz and ZC sequence = 571 for 30 kHz.	Band	No	N/A	N/A
dci-AvailableRB-Set-r16 Indicates whether the UE supports monitoring DCI 2_0 to read available RB set indicator.	Band	No	N/A	N/A
dci-ChOccupancyDuration-r16 Indicates whether the UE supports monitoring DCI 2_0 to read COT duration.	Band	No	N/A	N/A
typeB-PDSCH-length-r16 Indicates whether the UE supports 1. Type B PDSCH length {3, 5, 6, 8, 9, 10, 11, 12, 13} without DMRS shift due to CRS collision. This capability is also applicable to a frequency band that does not require shared spectrum access.	Band	No	N/A	N/A
searchSpaceSwitchWithDCI-r16 Indicates whether the UE supports switching between two groups of search space sets with DCI 2_0 monitoring that comprises of the following functional components: - Monitor DCI 2_0 with a search space set switching field; - Support switching the search space set group with PDCCH decoding in group 1; - Support a timer to switch back to original search space set group; - Monitor DCI 2_0 for channel occupancy time and use the end of channel occupancy time to switch back to the original search space set group. The UE can switch search space set groups for different cells independently, unless the UE supports *jointSearchSpaceSwitchAcrossCells-r16*. The UE supports search space set group switching capability-1: P=25/25/25 symbols for μ=0/1/2, unless the UE supports *searchSpaceSwitchCapability2-r16*. The UE supports search space switching triggers to be configured for up to 4 cells or 4 cell groups.	Band	No	N/A	N/A
extendedSearchSpaceSwitchWithDCI-r16 Indicates whether the UE supports search space switching triggers to be individually configured for up to 16 cells. UE indicating support of this feature shall indicate support of *searchSpaceSwitchWithDCI-r16*.	Band	No	N/A	N/A

searchSpaceSwitchWithoutDCI-r16 Indicates whether the UE supports switching between two groups of search space sets without DCI 2_0 monitoring (i.e. implicit PDCCH decoding) that comprises of the following functional components: - Support switching the search space set group with PDCCH decoding in group 1; - Support a timer to switch back to original search space set group. The UE can switch search space set groups for different cells independently, unless the UE supports *jointSearchSpaceSwitchAcrossCells-r16*. The UE supports search space set group switching capability-1: P=25/25/25 symbols for μ=0/1/2, unless the UE supports *searchSpaceSwitchCapability2-r16*.	Band	No	N/A	N/A
searchSpaceSwitchCapability2-r16 Indicates whether the UE supports search space set group switching Capability-2: P=10/12/22 symbols for μ = 0/1/2 SCS. If the UE supports this feature, the UE needs to report *searchSpaceSwitchWithDCI-r16* or *searchSpaceSwitchWithoutDCI-r16*.	Band	No	N/A	N/A
non-numericalPDSCH-HARQ-timing-r16 Indicates whether the UE supports configuration of a value for *dl-DataToUL-ACK-r16* indicating an inapplicable time to report HARQ ACK.	Band	No	N/A	N/A
enhancedDynamicHARQ-codebook-r16 Indicates whether the UE supports enhanced dynamic HARQ codebook supporting grouping of HARQ ACK and triggering the retransmission of HARQ ACK in each group. The enhanced dynamic HARQ codebook comprises of the following functional components: - Support of bit fields signalling PDSCH HARQ group index and NFI in DCI 1_1 (configuration of nfi-TotalDAI-Included); - Support of bit field in DCI 0_1 for other group total DAI if configured. (configuration of ul-TotalDAI-Included); - Support the retransmission of HARQ ACK (pdsch-HARQ-ACK-Codebook = enhancedDynamic-r16). This capability is also applicable to a frequency band that does not require shared spectrum access.	Band	No	N/A	N/A
oneShotHARQ-feedback-r16 Indicates whether the UE supports one shot HARQ ACK feedback comprised of the following functional components: - Support feedback of type 3 HARQ-ACK codebook, triggered by a DCI 1_1 scheduling a PDSCH; - Support feedback of type 3 HARQ-ACK codebook, triggered by a DCI 1_1 without scheduling a PDSCH using a reserved FDRA value. This capability is also applicable to a frequency band that does not require shared spectrum access.	Band	No	N/A	N/A
multiPUSCH-UL-grant-r16 Indicates whether the UE supports scheduling up to 8 PUSCH with a single DCI 0_1. This capability is also applicable to a frequency band that does not require shared spectrum access.	Band	No	N/A	N/A
csi-RS-RLM-r16 Indicates whether the UE supports CSI-RS based RLM for NR-Unlicensed.	Band	No	N/A	N/A
csi-RSRP-AndRSRQ-MeasWithSSB-r16 Indicates whether the UE can perform CSI-RSRP and CSI-RSRQ measurement as specified in TS 38.215 [13], where CSI-RS resource is configured with an associated SS/PBCH in shared spectrum channel access.	Band	No	N/A	N/A
csi-RSRP-AndRSRQ-MeasWithoutSSB-r16 Indicates whether the UE can perform CSI-RSRP and CSI-RSRQ measurement as specified in TS 38.215 [13], where CSI-RS resource is configured for a cell that transmits SS/PBCH block and without an associated SS/PBCH block in shared spectrum channel access.	Band	No	N/A	N/A

csi-SINR-Meas-r16 Indicates whether the UE can perform CSI-SINR measurements based on configured CSI-RS resources as specified in TS 38.215 [13] in shared spectrum channel access. If the UE supports this feature, the UE needs to report *maxNumberCSI-RS-RRM-RS-SINR*. UE indicating support of this feature shall indicate support of *csi-RSRP-AndRSRQ-MeasWithSSB-r16.*	Band	No	N/A	N/A
ssb-AndCSI-RS-RLM-r16 Indicates whether the UE can perform radio link monitoring procedure based on measurement of SS/PBCH block and CSI-RS as specified in TS 38.213 [11] and TS 38.133 [5] in shared spectrum channel access. If the UE supports this feature, the UE needs to report *maxNumberResource-CSI-RS-RLM*. UE indicating support of this feature shall indicate support of *csi-RS-RLM-r16* and either *ssb-RLM-DynamicChAccess-r16* or *ssb-RLM-Semi-StaticChAccess-r16*.	Band	No	N/A	N/A
csi-RS-CFRA-ForHO-r16 Indicates whether the UE can perform reconfiguration with sync using a contention free random access with 4-step RA type on PRACH resources that are associated with CSI-RS resources of the target cell in shared spectrum channel access. UE indicating support of this feature shall indicate support of either *csi-RSRP-AndRSRQ-MeasWithSSB-r16* or *csi-RSRP-AndRSRQ-MeasWithoutSSB-r16.*	Band	No	N/A	N/A
periodicAndSemi-PersistentCSI-RS-r16 indicates whether the UE supports validating P/SP-CSI-RS reception when receiving a DCI granting a PDSCH over the same set of symbols, and when receiving a DCI triggering an A-CSI-RS over the same set of symbols.	Band	No	N/A	N/A
pusch-PRB-interlace-r16 Indicates whether the UE supports PRB interlace frequency domain resource allocation for PUSCH.	Band	No	N/A	N/A
pucch-F0-F1-PRB-Interlace-r16 Indicates whether the UE supports PRB interlace frequency domain resource allocation for PUCCH format 0, 1, 2 and 3.	Band	No	N/A	N/A
occ-PRB-PF2-PF3-r16 Indicates whether the UE supports OCC for PRB interface mapping for PUCCH format 2 and 3. If the UE supports this feature, the UE needs to report *pucch-F0-F1-PRB-Interlace-r16*.	Band	No	N/A	N/A
extCP-rangeCG-PUSCH-r16 Indicates whether the UE supports generating a CP extension of length longer than 1 symbol for Configured Grant PUSCH transmission. If the UE supports this feature, the UE needs to report *configuredUL-GrantType1* or *configuredUL-GrantType1-v1650* and/or *configuredUL-GrantType2* or *configuredUL-GrantType2-v1650*.	Band	No	N/A	N/A
configuredGrantWithReTx-r16 Indicates whether the UE supports configured grant with retransmission in configured grant resource, comprised of retransmission timer, DFI monitoring and CG-UCI in CG-PUSCH. If the UE supports this feature, the UE needs to report *configuredUL-GrantType1 or configuredUL-GrantType1-v1650* and/or *configuredUL-GrantType2 or configuredUL-GrantType2-v1650*.	Band	No	N/A	N/A
ed-Threshold-r16 Indicates whether the UE supports using ED threshold given by gNB for UL to DL COT sharing. A UE that supports this feature shall also support *ul-DynamicChAccess-r16*.	Band	No	N/A	N/A
ul-DL-COT-Sharing-r16 Indicates whether the UE supports UL to DL COT sharing. A UE that supports this feature shall also support *ul-DynamicChAccess-r16*.	Band	No	N/A	N/A
mux-CG-UCI-HARQ-ACK-r16 Indicates whether the UE supports multiplexing CG-UCI with HARQ ACK. If the UE supports this feature, the UE needs to report *configuredGrantWithReTx-r16*.	Band	No	N/A	N/A
cg-resourceConfig-r16 Indicates whether the UE supports configuration of resources with *cg-nrofSlots-r16* and *cg-nrofPUSCH-InSlot-r16*. If the UE supports this feature, the UE needs to report *configuredUL-GrantType1* or *configuredUL-GrantType1-v1650* and/or *configuredUL-GrantType2* or *configuredUL-GrantType2-v1650*.	Band	No	N/A	N/A
dl-ReceptionLBT-subsetRB-r16 Indicates whether the UE supports reception in a wideband carrier when LBT is successful in a subset of the configured RB sets, which are either contiguous or non-contiguous, of the carrier.	Band	No	N/A	N/A

dl-ReceptionIntraCellGuardband-r16 Indicates whether the UE supports reception in the non-zero intra-cell guardband between contiguous RB sets in DL wideband carrier operation wider than 20MHz when LBT is successful only in a subset of RB sets. The UE indicates support of this capability shall also indicates support of *dl-ReceptionLBT-subsetRB-r16*.	Band	No	N/A	N/A

4.2.7.3 *CA-ParametersEUTRA*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
additionalRx-Tx-PerformanceReq *additionalRx-Tx-PerformanceReq* defined in 4.3.5.22, TS 36.306 [15].	BC	No	N/A	N/A
dl-1024QAM-TotalWeightedLayers Indicates total number of weighted layers for the LTE part of the concerned (NG)EN-DC/NE-DC band combination the UE can process for 1024QAM, as described in TS 36.306 [15] equation 4.3.5.31-1. Actual value = (10 + indicated value x 2), i.e. value 0 indicates 10 layers, value 1 indicates 12 layers and so on. For an (NG)EN-DC/NE-DC band combination for which this field is not included, *dl-1024QAM-TotalWeightedLayers-r15* as described in TS 36.331 [17] applies, if included.	BC	No	N/A	N/A
multipleTimingAdvance *multipleTimingAdvance* defined in 4.3.5.3, TS 36.306 [15].	BC	No	N/A	N/A
simultaneousRx-Tx *simultaneousRx-Tx* defined in 4.3.5.4, TS 36.306 [15].	BC	No	N/A	N/A
supportedBandwidthCombinationSetEUTRA Indicates the set of supported bandwidth combinations for the LTE part for inter-band (NG)EN-DC without intra-band (NG)EN-DC component, inter-band NE-DC without intra-band NE-DC component and intra-band (NG)EN-DC/NE-DC with additional inter-band LTE CA component. The field is encoded as a bit map, where bit N is set to "1" if UE support Bandwidth Combination Set N for this band combination. The leading / leftmost bit (bit 0) corresponds to the Bandwidth Combination Set 0, the next bit corresponds to the Bandwidth Combination Set 1 and so on. The UE shall neither include the field for a (NG)EN-DC/NE-DC combination which has only one LTE carrier, nor for a (NG)EN-DC/NE-DC combination which has more than one LTE carrier for which the UE only supports Bandwidth Combination Set 0 for the LTE part. If the inter-band (NG)EN-DC/NE-DC has more than one LTE carrier, the UE shall support at least one bandwidth combination for the supported LTE part.	BC	CY	N/A	N/A
supportedNAICS-2CRS-AP *supportedNAICS-2CRS-AP* defined in 4.3.5.8, TS 36.306 [15].	BC	No	N/A	N/A
fd-MIMO-TotalWeightedLayers Indicates total number of weighted layers for the LTE part of the concerned (NG)EN-DC/NE-DC band combination the UE can process for FD-MIMO, as described in TS 36.306 [15] equation 4.3.28.13-1 and TS 36.331 [17] clause 6.3.6, NOTE 8 in *UE-EUTRA-Capability* field descriptions. For an (NG)EN-DC/NE-DC band combination for which this field is not included, *totalWeightedLayers-r13* as described in TS 36.331 [17] applies, if included.	BC	No	N/A	N/A
ue-CA-PowerClass-N *ue-CA-PowerClass-N* defined in 4.3.5.1.3, TS 36.306 [15].	BC	No	N/A	N/A

4.2.7.4 *CA-ParametersNR*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
beamManagementType-r16 Indicates the supported beam management type for inter-band CA within FR2. Beam management type can be independent beam management (IBM) or common beam management (CBM). In this release of the specification, the UE shall only report value of '*ibm*'.	BC	Yes	TDD only	FR2 only
blindDetectFactor-r16 Defines the value of factor R for blind detection as specified in Clause 10.1 [11]. The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16.*	BC	No	N/A	N/A
codebookComboParametersAdditionPerBC-r16 Indicates the list of supported CSI-RS resources across all bands in a band combination by referring to *codebookVariantsList* for the mixed codebook types. For mixed codebook types, UE reports support active CSI-RS resources and ports for up to 4 mixed codebook combinations in any slot. The following parameters are included in *codebookVariantsList* for each code book type: - *maxNumberTxPortsPerResource* indicates the maximum number of Tx ports in a resource across all bands within a band combination; - *maxNumberResourcesPerBand* indicates the maximum number of resources across all CCs within a band combination, simultaneously; - *totalNumberTxPortsPerBand* indicates the total number of Tx ports across all CCs within a band combination, simultaneously. For each band in a band combination, supported values for these three parameters are determined in conjunction with *codebookComboParametersAddition-r16* reported in *MIMO-ParametersPerBand*.	BC	No	N/A	N/A
codebookParametersAdditionPerBC-r16 Indicates the list of supported CSI-RS resources across all bands in a band combination by referring to *codebookVariantsList* for the additional codebook types. The following parameters are included in *codebookVariantsList* for each code book type: - *maxNumberTxPortsPerResource* indicates the maximum number of Tx ports in a resource across all bands within a band combination; - *maxNumberResourcesPerBand* indicates the maximum number of resources across all CCs within a band combination, simultaneously; - *totalNumberTxPortsPerBand* indicates the total number of Tx ports across all CCs within a band combination, simultaneously. For each band in a band combination, supported values for these three parameters are determined in conjunction with *codebookParametersAddition-r16* reported in *MIMO-ParametersPerBand*.	BC	No	N/A	N/A
crossCarrierA-CSI-trigDiffSCS-r16 Indicates the UE support of handling cross-carrier aperiodic CSI report with aperiodic CSI-RS where triggering PDCCH and triggered CSI-RS resource are on different cells with different SCS. Value *higherA-CSI-SCS* indicates the UE support of PDCCH cell of lower SCS and CSI RS cell of higher SCS and value *lowerA-CSI-SCS* indicates the UE support of PDCCH cell of higher SCS and CSI RS cell of lower SCS, and value *both* indicates the support of both variations. A UE supporting this feature shall also indicate support of CSI-RS and CSI-IM reception for CSI feedback using *csi-RS-IM-ReceptionForFeedback*	BC	No	N/A	N/A
crossCarrierSchedulingDefaultQCL-r16 Indicates whether the UE can be configured with *enabledDefaultBeamForCCS* for default QCL assumption for cross-carrier scheduling for same/different numerologies. A UE supporting this feature shall either indicate support of *crossCarrierScheduling-SameSCS* or *crossCarrierSchedulingDL-DiffSCS-r16*. Value *diff-only* indicates UE supports this feature only for different SCS combination(s). Value *both* indicates UE supports this feature for same SCS and for different SCS combination(s).	BC	No	N/A	N/A

crossCarrierSchedulingDL-DiffSCS-r16 Indicates the UE supports cross carrier scheduling for the different numerologies with carrier indicator field (CIF) in DL carrier aggregation where numerologies for the scheduling CC and scheduled CC are different. Value *low-to-hig*h indicates UE supports scheduling CC of lower SCS to scheduled CC of higher SCS; Value *high-to-low* indicates UE supports scheduling CC of higher SCS to scheduled CC of lower SCS; Value *both* indicates UE supports both scheduling CC of lower SCS to scheduled CC of higher SCS and scheduling CC of higher SCS to scheduled CC of lower SCS. NOTE 1: Following components are applicable to cross carrier scheduling from lower SCS to higher SCS when the UE reports this feature: - Processing one unicast DCI scheduling DL per scheduling CC slot per scheduled CC for FDD scheduling CC - Processing one unicast DCI scheduling DL per scheduling CC slot per scheduled CC for TDD scheduling CC NOTE 2: Following components are applicable to cross carrier scheduling from higher SCS to lower SCS when the UE reports this feature: - Processing one unicast DCI scheduling DL per N consecutive scheduling CC slot per scheduled CC for FDD scheduling CC - Processing one unicast DCI scheduling DL per N consecutive scheduling CC slot per scheduled CC for TDD scheduling CC - 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 (60,5), (120,30), N = 8 for (120,15)	BC	No	N/A	N/A
crossCarrierSchedulingUL-DiffSCS-r16 Indicates the UE supports cross carrier scheduling for the different numerologies with carrier indicator field (CIF) in UL carrier aggregation where numerologies for the scheduling CC and scheduled CC are different. Value *low-to-high* indicates UE supports scheduling CC of lower SCS to scheduled CC of higher SCS; Value *high-to-low* indicates UE supports scheduling CC of higher SCS to scheduled CC of lower SCS; Value *both* indicates UE supports both scheduling CC of lower SCS to scheduled CC of higher SCS and scheduling CC of higher SCS to scheduled CC of lower SCS. NOTE 1: Following components are applicable to cross carrier scheduling from lower SCS to higher SCS when the UE reports this feature: - Processing one unicast DCI scheduling UL per scheduling CC slot per scheduled CC for FDD scheduling CC - Processing 2 unicast DCI scheduling UL per scheduling CC slot per scheduled CC for TDD scheduling CC NOTE 2: Following components are applicable to cross carrier scheduling from higher SCS to lower SCS when the UE reports this feature: - Processing one unicast DCI scheduling UL per N consecutive scheduling CC slot per scheduled CC for FDD scheduling CC - Processing 2 unicast DCI scheduling UL per N consecutive scheduling CC slot per scheduled CC for TDD scheduling CC - 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 (60,5), (120,30), N = 8 for (120,15)	BC	No	N/A	N/A

csi-ReportingCrossPUCCH-Grp-r16
Indicates the support of CSI reporting cross PUCCH group, comprised of the following functional components:
 	
- Support reporting CSI of an SCell belonging to secondary PUCCH group by PUSCH or PUCCH of active serving cells belonging to primary PUCCH group, for both during and after SCell activation procedure;
- Support reporting CSI of an SCell belonging to primary PUCCH group by PUSCH or PUCCH of active serving cells belonging to secondary PUCCH group, for both during and after SCell activation procedure;
- Support for P-CSI and A-CSI for cross-PUCCH group CSI reporting;
- *computationTimeForA-CSI-r16* indicates the CSI computation time for A-CSI; if '*relaxed*' is reported, the *additionalSymbols-r16* shall be reported to indicate for each supported SCS the required additional number of symbols in addition to existing Z and Z' for aperiodic CSI report for cross-PUCCH group CSI reporting (the same SCS set definition as in clause 5.4 of TS 38.214 [12]). The value *s14* indicates 14 symbols, and so on.
- *sp-CSI-ReportingOnPUCCH-r16* indicates whether the UE supports SP-CSI reporting on PUCCH for cross-PUCCH group CSI reporting;
- *sp-CSI-ReportingOnPUSCH-r16* indicates whether the UE supports SP-CSI reporting on PUSCH for cross-PUCCH group CSI reporting;
- *carrierTypePairList-r16* indicates one or multiple supported carrier type pairs(s). For each supported carrier type pair in *carrierTypePairList-r16*:
  - *carrierForCSI-Measurement-r16* indicates the carrier type in a PUCCH group in which CSI measurement is performed;
  - *carrierForCSI-Reporting-r16* indicates the carrier type in the other PUCCH group in which CSI report is performed,
  - where a carrier type is one of {*fr1-NonSharedTDD-r16, fr1-SharedTDD-r16, fr1-NonSharedFDD-r16, fr2-r16*}
 	
UE indicating support of this feature shall indicate *csi-ReportFramework* and indicate support of either *twoPUCCH-Group* or *twoPUCCH-Grp-ConfigurationsList-r16*.
 	
NOTE 1: For a band combination with SUL, the SUL band is counted as one of the bands.
NOTE 2: For a band combination with SDL, the SDL band is counted as one of the bands. SDL is indicated as 'FR1-NonSharedFDD' carrier type. Per UE capabilities that are TDD only are not applicable to SDL.
NOTE 3: When the carrier type of NUL is indicated for PUCCH/PUSCH transmission location for CSI measurement or CSI reporting, the SUL in the same cell as in the NUL can also be configured for PUCCH/PUSCH transmission.
	BC	No	N/A	N/A

csi-RS-IM-ReceptionForFeedbackPerBandComb Indicates support of CSI-RS and CSI-IM reception for CSI feedback. This capability signalling comprises the following parameters: - *maxNumberSimultaneousNZP-CSI-RS-ActBWP-AllCC* indicates the maximum number of simultaneous CSI-RS resources (irrespective of the associated codebook type) in active BWPs across all CCs, and across MCG and SCG in case of NR-DC. The network applies this limit in addition to the limits signalled in *MIMO-ParametersPerBand-> maxNumberSimultaneousNZP-CSI-RS-PerCC* and in *Phy-ParametersFRX-Diff-> maxNumberSimultaneousNZP-CSI-RS-PerCC*; - *totalNumberPortsSimultaneousNZP-CSI-RS-ActBWP-AllCC* indicates the total number of CSI-RS ports in simultaneous CSI-RS resources (irrespective of the associated codebook type) in active BWPs across all CCs, and across MCG and SCG in case of NR-DC. The network applies this limit in addition to the limits signalled in *MIMO-ParametersPerBand-> totalNumberPortsSimultaneousNZP-CSI-RS-PerCC* and in *Phy-ParametersFRX-Diff-> totalNumberPortsSimultaneousNZP-CSI-RS-PerCC*. The UE is mandated to report *csi-RS-IM-ReceptionForFeedbackPerBandComb*.	BC	Yes	N/A	N/A

defaultQCL-CrossCarrierA-CSI-Trig-r16 Indicates whether the UE can be configured with *enabledDefaultBeamForCCS* for default QCL assumption for cross-carrier A-CSI-RS triggering for same/different numerologies as specified in TS 38.213 [11]. Value *diffOnly* indicates the UE supports this feature for different SCS combination(s). Value *both* indicates the UE supports this feature for same SCS and for different SCS combination(s) (low-to-high, high-to-low or both) reported for *crossCarrierA-CSI-trigDiffSCS-r16.*	BC	No	N/A	N/A
diffNumerologyAcrossPUCCH-Group Indicates whether different numerology across two NR PUCCH groups for data and control channel at a given time in NR CA and (NG)EN-DC/NE-DC is supported by the UE.	BC	No	N/A	N/A
diffNumerologyAcrossPUCCH-Group-CarrierTypes-r16 Indicates whether different numerology across two NR PUCCH groups for data and control channel at a given time in NR CA for UE supporting two PUCCH groups with 3 or more bands with at least two carrier types. UE indicating support of this feature shall indicate support of *twoPUCCH-Grp-ConfigurationsList-r16.*	BC	No	N/A	N/A
diffNumerologyWithinPUCCH-GroupLargerSCS Indicates whether UE supports different numerology across carriers within a PUCCH group and a same numerology between DL and UL per carrier for data/control channel at a given time in NR CA, (NG)EN-DC/NE-DC and NR-DC. In case of NR CA and (NG)EN-DC/NE-DC with one NR PUCCH group and in case of NR CA with two NR PUCCH groups, it also indicates whether the UE supports different numerologies across NR carriers within the same NR PUCCH group up to two different numerologies within the same NR PUCCH group, wherein NR PUCCH is sent on the carrier with larger SCS for data and control channel at a given time. In case of (NG)EN-DC/NE-DC with two NR PUCCH groups, it indicates whether the UE supports different numerologies across NR carriers up to two different numerologies within an NR PUCCH group in FR1, wherein NR PUCCH is sent on the carrier with larger SCS, and same numerology across NR carriers within another NR PUCCH group in FR2 for data and control channel at a given time. In case of NR-DC, it indicates whether the UE supports different numerologies across NR carriers within the same NR PUCCH group in MCG (in FR1) up to two different numerologies within the same NR PUCCH group wherein NR PUCCH is sent on the carrier with larger SCS for data/control channel at a given time; and same numerology across NR carriers in SCG (in FR2).	BC	No	N/A	N/A
diffNumerologyWithinPUCCH-GroupLargerSCS-CarrierTypes-r16 Indicates whether UE supports different numerology across carriers up to 2 different numerologies within the same PUCCH group wherein PUCCH is sent on the carrier with larger SCS for data/control channel at a given time in NR CA for UE supporting two PUCCH groups with 3 or more bands with at least two carrier types. UE indicating support of this feature shall indicate support of *twoPUCCH-Grp-ConfigurationsList-r16.* NOTE: PUCCH is sent on a carrier with SCS not smaller than SCS of any DL carriers corresponding to the PUCCH group.	BC	No	N/A	N/A
diffNumerologyWithinPUCCH-GroupSmallerSCS Indicates whether UE supports different numerology across carriers within a PUCCH group and a same numerology between DL and UL per carrier for data/control channel at a given time in NR CA, (NG)EN-DC/NE-DC and NR-DC. In case of NR CA and (NG)EN-DC/NE-DC with one NR PUCCH group and in case of NR CA with two NR PUCCH groups, it also indicates whether the UE supports different numerologies across NR carriers within the same NR PUCCH group up to two different numerologies within the same NR PUCCH group, wherein NR PUCCH is sent on the carrier with smaller SCS for data and control channel at a given time. In case of (NG)EN-DC/NE-DC with two NR PUCCH groups, it indicates whether the UE supports different numerologies across NR carriers up to two different numerologies within an NR PUCCH group in FR1, wherein NR PUCCH is sent on the carrier with smaller SCS, and same numerology across NR carriers within another NR PUCCH group in FR2 for data and control channel at a given time. In case of NR-DC, it indicates whether the UE supports different numerologies across NR carriers within the same NR PUCCH group in MCG (in FR1) up to two different numerologies within the same NR PUCCH group wherein NR PUCCH is sent on the carrier with smaller SCS for data/control channel at a given time; and same numerology across NR carriers in SCG (in FR2).	BC	No	N/A	N/A

diffNumerologyWithinPUCCH-GroupSmallerSCS-CarrierTypes-r16 Indicates whether UE supports different numerology across carriers up to 2 different numerologies within the same PUCCH group wherein PUCCH is sent on the carrier with smaller SCS for data/control channel at a given time in NR CA for UE supporting two PUCCH groups with 3 or more bands with at least two carrier types. UE indicating support of this feature shall indicate support of *twoPUCCH-Grp-ConfigurationsList-r16.* NOTE: NR PUCCH is sent on a carrier with SCS not larger than SCS of any DL carriers corresponding to the NR PUCCH group.	BC	No	N/A	N/A
dualPA-Architecture For band combinations with single-band with UL CA, this field indicates the support of dual PA and dual LO frequencies for FR1, or dual LO frequencies for FR2. If absent in such band combinations, the UE supports single PA and single LO frequency for all the ULs for FR1, or single LO frequency for all the ULs for FR2. For other band combinations, this field is not applicable.	BC	No	N/A	N/A
half-DuplexTDD-CA-SameSCS-r16 Indicates whether the UE supports directional collision handling between reference and other cell(s) for half-duplex operation in TDD CA with same SCS. The UE can include this field for band combinations including only intra-band TDD CA or if *simultaneousRxTxInterBandCA* is not present for band combinations involving mix of intra-band TDD CA and inter-band TDD CA.	BC	No	TDD only	N/A
interCA-NonAlignedFrame-r16 Indicates whether the UE supports inter-band carrier aggregation operation where, within the same cell group, the frame boundaries of the SpCell and the SCell(s) are not aligned, the slot boundaries are aligned and the lowest subcarrier spacing of the subcarrier spacings given in *scs-SpecificCarrierList* for SpCell is smaller than or equal to the lowest subcarrier spacing of the subcarrier spacings given in *scs-SpecificCarrierList* for each of the non-aligned SCells.	BC	No	N/A	N/A
interCA-NonAlignedFrame-B-r16 Indicates whether the UE supports inter-band carrier aggregation operation where, within the same cell group, the frame boundaries of the SpCell and the SCell(s) are not aligned, the slot boundaries are aligned and the lowest subcarrier spacing of the subcarrier spacings given in *scs-SpecificCarrierList* for SpCell is larger than the lowest subcarrier spacing of the subcarrier spacings given in *scs-SpecificCarrierList* for at least one of the non-aligned SCells. A UE indicating support of *interCA-NonAlignedFrame-B-r16* shall also indicate support of *interCA-NonAlignedFrame-r16*.	BC	No	N/A	N/A

interFreqDAPS-r16 Indicates whether the UE supports inter-frequency handover, e.g. support of simultaneous DL reception of PDCCH and PDSCH from source and target cell. A UE indicating this capability shall also support inter-frequency synchronous DAPS handover, and single UL transmission for inter-frequency DAPS handover. The capability signalling comprises of the following parameters: - *interFreqAsyncDAPS-r16* indicates whether the UE supports asynchronous DAPS handover. - *interFreqDiffSCS-DAPS-r16* indicates whether the UE supports different SCSs in source PCell and inter-frequency target PCell in DAPS handover. The UE only includes this field if different SCSs can be supported in both UL and DL. If absent, the UE does not support either UL or DL SCS being different in DAPS handover. - *interFreqMultiUL-TransmissionDAPS-r16* indicates whether the UE supports simultaneous UL transmission in source PCell and target PCell during a DAPS handover. The UE can include this field only if any of *semiStaticPowerSharingDAPS-Mode1-r16*, *semiStaticPowerSharingDAPS-Mode2-r16* or *dynamicPowersharingDAPS-r16* are included. Otherwise, the UE does not include this field. - *interFreqSemiStaticPowerSharingDAPS-Mode1-r16* indicates whether the UE supports semi-static UL power sharing mode 1 during DAPS handover between source and target cells of same FR. - *interFreqSemiStaticPowerSharingDAPS-Mode2-r16* indicates whether the UE supports semi-static UL power sharing mode 2 during DAPS handover between source and target cells of same FR. It is only applicable to DAPS Handover in synchronous scenarios. The UE only includes this field if *semiStaticPowerSharingDAPS-Mode1-r16* is included. Otherwise, the UE does not include this field. - *interFreqDynamicPowersharingDAPS-r16* indicates the value of T offset (short or long) that the UE supports for dynamic UL power sharing during DAPS handover between source and target cells of same FR. The UE only include this field if *semiStaticPowerSharingDAPS-Mode1-r16* is included. Otherwise, the UE does not include this field. - *interFreqUL-TransCancellationDAPS-r16* indicates support of cancelling UL transmission to the source PCell for inter-frequency DAPS handover.	BC	No	N/A	N/A
intraBandFreqSeparationUL-AggBW-GapBW-r16 Indicates the UL frequency separation class between lower edge of lowest CC and upper edge of highest CC of Intra-band UL non-contiguous CA, i.e. including both the aggregated bandwidth and the gap bandwidth. 3 frequency separation classes are introduced and the values are as follow: - class I: Non-contiguous CA separation class ≤ 100MHz - class II: 100MHz < Non-contiguous CA separation class≤ 200MHz - class III: 200MHz < Non-contiguous CA separation class <600MHz	BC	No	N/A	FR1 only
jointSearchSpaceSwitchAcrossCells-r16 Indicates whether the UE supports being configured with a group of cells and switching search space set group jointly over these cells. If the UE supports this feature, the UE needs to report *searchSpaceSwitchWithDCI-r16* or *searchSpaceSwitchWithoutDCI-r16*.	BC	No	N/A	N/A
maxUpTo3Diff-NumerologiesConfigSinglePUCCH-grp-r16 Indicates the UE support of up to 3 different numerologies in the same PUCCH group where UE is not configured with two NR PUCCH groups by indicating one or multiple NR carrier types {FR1 licensed TDD (*fr1-NonSharedTDD-r16*), FR1 unlicensed TDD (*fr1-SharedTDD-r16*), FR1 licensed FDD (*fr1-NonSharedFDD-r16*), FR2(*fr2-r16*)} that can transmit the PUCCH for NR part of (NG)EN-DC, NE-DC and NR-CA. NOTE: When the carrier type of NUL is indicated for PUCCH transmission location, the SUL in the same cell as in the NUL can also be configured for PUCCH transmission.	BC	No	N/A	N/A

maxUpTo4Diff-NumerologiesConfigSinglePUCCH-grp-r16 Indicates the UE support of up to 4 different numerologies in the same PUCCH group where UE is not configured with two NR PUCCH groups by indicating one or multiple the NR carrier types {FR1 licensed TDD (*fr1-NonSharedTDD-r16*), FR1 unlicensed TDD (*fr1-SharedTDD-r16*), FR1 licensed FDD (*fr1-NonSharedFDD-r16*), FR2(*fr2-r16*)} that can transmit the PUCCH for NR part of (NG)EN-DC, NE-DC and NR-CA. NOTE: When the carrier type of NUL is indicated for PUCCH transmission location, the SUL in the same cell as in the NUL can also be configured for PUCCH transmission.	BC	No	N/A	N/A
msgA-SUL-r16 Indicates whether the UE supports MSGA transmission in a band combination including SUL. A UE supporting this feature shall also indicate support of *twoStepRACH-r16*.	BC	No	N/A	N/A
parallelTxMsgA-SRS-PUCCH-PUSCH-r16 Indicates whether the UE supports parallel transmission of MsgA and SRS/ PUCCH/ PUSCH across CCs in an inter-band CA band combination. A UE supporting this feature shall also indicate support of *parallelTxPRACH-SRS-PUCCH-PUSCH*.	BC	No	N/A	N/A
parallelTxSRS-PUCCH-PUSCH Indicates whether the UE supports parallel transmission of SRS and PUCCH/ PUSCH across CCs in an inter-band CA band combination.	BC	No	N/A	N/A
parallelTxPRACH-SRS-PUCCH-PUSCH Indicates whether the UE supports parallel transmission of PRACH and SRS/PUCCH/PUSCH across CCs in an inter-band CA band combination.	BC	No	N/A	N/A
pdcch-BlindDetectionCA-Mixed-r16, pdcch-BlindDetectionCA-Mixed-v16a0 This field indicates mixed operation of two variants of the number of blind detections in case of CA. UE indicating support of this feature shall also indicate support of *pdcch-MonitoringMixed-r16*. UE indicating support of *pdcch-BlindDetectionCA-Mixed-v16a0* shall also indicate support of *pdcch-MonitoringMixed-r16*. Only one between *pdcch-BlindDetectionCA-Mixed-r16* and *pdcch-BlindDetectionCA-Mixed-NonAlignedSpan-r16* can be reported by UE.	BC	No	N/A	N/A
pdcch-BlindDetectionCA-Mixed-NonAlignedSpan-r16, pdcch-BlindDetectionCA-Mixed-NonAlignedSpan-v16a0 This field indicates mixed operation of two variants of the number of blind detections in case of CA when the UE supports aligned span and non-aligned span. In the case of non-aligned span, when the configured number of CCs with Rel-16 PDCCH monitoring is larger than the UE reported value, PDCCH monitoring occasion(s) should be configured only on same symbol(s) every slot. UE indicating support of this feature shall also indicate support of *pdcch-MonitoringMixed-r16*. The minimum of the summation of capability on the number of CCs with Rel-15 PDCCH monitoring capability and the capability on the number of CCs with Rel-16 PDCCH monitoring capability is 3. UE indicating support of *pdcch-BlindDetectionCA-Mixed-NonAlignedSpan-v16a0* shall also indicate support of *pdcch-BlindDetectionCA-Mixed-NonAlignedSpan-r16*. Only one between *pdcch-BlindDetectionCA-Mixed-r16* and *pdcch-BlindDetectionCA-Mixed-NonAlignedSpan-r16* can be reported by UE.	BC	No	N/A	N/A
pdcch-BlindDetectionMCG-UE-r16, pdcch-BlindDetectionSCG-UE-r16 This field indicates the number of blind detections supported for MCG and SCG, respectively. UE shall report the fields for MCG and for SCG together if supported. If a UE supports *pdcch-MonitoringCA-r16* or *pdcch-MonitoringCA-NonAlighedSpan-r16*, then the capability defined by *pdcch-MonitoringCA-r16* or *pdcch-MonitoringCA-NonAlighedSpan-r16* is applied to the feature as defined in clause 10 in TS 38.213 [11].	BC	No	N/A	N/A

pdcch-BlindDetectionMCG-UE-Mixed-r16, pdcch-BlindDetectionSCG-UE-Mixed-r16, pdcch-BlindDetectionMCG-UE-Mixed-v16a0, pdcch-BlindDetectionSCG-UE-Mixed-v16a0 This field indicates mixed operation of two variants of the number of blind detections supported for MCG and SCG, respectively. UE shall report the fields for MCG and for SCG together if supported. UE indicating support of *pdcch-BlindDetectionMCG-UE-Mixed-v16a0* and *pdcch-BlindDetectionSCG-UE-Mixed-v16a0* shall also indicate support of *pdcch-BlindDetectionMCG-UE-Mixed-r16* and *pdcch-BlindDetectionSCG-UE-Mixed-r16*. If a UE supports *pdcch-BlindDetectionCA-Mixed* or *pdcch-BlindDetectionCA-Mixed-NonAlignedSpan*, then the capability defined by *pdcch-BlindDetectionCA-Mixed* or *pdcch-BlindDetectionCA-Mixed-NonAlignedSpan* is applied to the combination of *pdcch-BlindDetectionMCG-UE-Mixed and pdcch-BlindDetectionSCG-UE-Mixed* correspondingly as defined in clause 10 in TS 38.213 [11].	BC	No	N/A	N/A
pdcch-MonitoringCA-r16 Indicates the number of CCs for monitoring a maximum number of blind detections and non-overlapped CCEs per span when configured with DL CA with Rel-16 PDCCH monitoring capability on all the serving cells. This field also indicates supported span arrangement for CA. A UE that supports this feature shall also support *pdcch-Monitoring-r16*. UE indicating support of this feature shall also indicate support of *pdcch-Monitoring-r16.* Only one between *pdcch-MonitoringCA-r16* and *pdcch-MonitoringCA-NonAlignedSpan-r16* can be reported by UE.	BC	No	N/A	N/A
pdcch-MonitoringCA-NonAlignedSpan-r16 Indicates the number of CCs for monitoring a maximum number of blind detections and non-overlapped CCEs per span when configured with DL CA with Rel-16 PDCCH monitoring capability on all the serving cells in the case UE supports aligned span and non-aligned span. In the case of non-aligned span, when the configured number of CCs with Rel-16 PDCCH monitoring is larger than the UE reported value and PDCCH monitoring occasion(s) should be configured only on same symbol(s) every slot. UE indicating support of this feature shall also indicate support of *pdcch-Monitoring-r16*. Only one between *pdcch-MonitoringCA-r16* and *pdcch-MonitoringCA-NonAlignedSpan-r16* can be reported by UE.	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
scellDormancyOutsideActiveTime-r16 Indicates whether the UE supports SCell dormancy indication received on SPCell using DCI format 2_6 sent outside the active time as defined in clause 10.3 of TS 38.213 [11]. A UE supporting this feature shall also indicate support of power saving DRX adaptation using *drx-Adaptation-r16* and shall also support 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
simultaneousCSI-ReportsAllCC Indicates whether the UE supports CSI report framework and the number of CSI report(s) which the UE can simultaneously process across all CCs, and across MCG and SCG in case of NR-DC. The CSI report comprises periodic, semi-persistent and aperiodic CSI and any latency classes and codebook types. The CSI report in *simultaneousCSI-ReportsAllCC* includes the beam report and CSI report. This parameter may further limit *simultaneousCSI-ReportsPerCC* in *MIMO-ParametersPerBand* and *Phy-ParametersFRX-Diff* for each band in a given band combination.	BC	Yes	N/A	N/A

simul-SRS-Trans-BC-r16 Indicates the number of SRS resources for positioning on a symbol for a given band combination. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field; NOTE 1: For single-band band combinations, it defines the capability for intra-band CA, and for band combinations with at least two bands, it defines the capability for inter-band carrier aggregation. NOTE 2: if the UE does not indicate this capability for a band combination, the UE does not support the feature in this band combination.	BC	No	N/A	N/A
simul-SRS-MIMO-Trans-BC-r16 Indicates the number of SRS resources for positioning and SRS resource for MIMO on a symbol for a given BC. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field. NOTE 1: If UE reports 2 for the candidate value, it means both the number of SRS resource for positioning and SRS resource for MIMO equals to 1. NOTE 2: For single-band band combinations, it defines the capability for intra-band carrier aggregation, and for band combinations with at least two bands, it defines the capability for inter-band carrier aggregation. NOTE 3: if the UE does not indicate this capability for a band combination, the UE does not support the feature in this band combination.	BC	No	N/A	N/A
simulTX-SRS-AntSwitchingInterBandUL-CA-r16 Indicates whether the UE support simultaneous transmission of SRS on different CCs for inter-band UL CA. The UE indicating support of this feature shall include at least one of the following capabilities: - *supportSRS-xTyR-xLessThanY-r16* indicates support transmission of SRS for xTyR (x<y) based antenna switching and SRS for CB/NCB/BM on different CCs in overlapped symbol(s) for inter-band UL CA. - *supportSRS-xTyR-xEqualToY-r16* indicates support transmission of SRS for xTyR (x=y) based antenna switching and SRS for CB/NCB/BM on different CCs in overlapped symbol(s) for inter-band UL CA. - *supportSRS-AntennaSwitching-r16* Indicates whether the UE support simultaneous transmission of SRS for antenna switching on different CCs in overlapped symbol(s) for inter-band UL CA. NOTE: For simultaneously antenna switching and antenna switching SRS in inter-band CAs with bands whose UL are switched together according to the reported *supportSRS-AntennaSwitching-r16*, the UE expects the same configuration of xTyR across the different CCs and the SRS resources overlapped in time domain from UE perspective are from the same UE antenna ports.	BC	No	N/A	N/A
simultaneousRxTxInterBandCA Indicates whether the UE supports simultaneous transmission and reception in TDD-TDD and TDD-FDD inter-band NR CA. If this field is included in *ca-ParametersNR-ForDC*, it indicates the UE supports simultaneous transmission and reception between any UL/DL band pair within a cell group and across MCG and SCG in TDD-TDD and TDD-FDD inter-band NR-DC. It is mandatory for certain TDD-FDD and TDD-TDD band combinations defined in TS 38.101-1 [2], TS 38.101-2 [3] and TS 38.101-3 [4].	BC	CY	N/A	N/A

simultaneousRxTxInterBandCAPerBandPair Indicates whether the UE supports simultaneous transmission and reception in TDD-TDD and TDD-FDD inter-band NR CA for each band pair in the band combination. Encoded as a bitmap with size L * (L – 1) / 2, and bit N (leftmost bit is indexed as bit 0) is set to "1" if the UE supports simultaneous transmission and reception for band pair (x, y), where L is the number of band entries in the band combination, x and y are the indices of the band entry in the band combination (the first band entry is indexed as 0), x < y, and N = x*(2*L – x – 1)/2 + y – x – 1. If this field is included in *ca-ParametersNR-ForDC*, each bit of this field indicates whether the UE supports simultaneous transmission and reception between each band pair, within a cell group and across MCG and SCG in TDD-TDD and TDD-FDD inter-band NR-DC. The UE does not include this field if the UE supports simultaneous transmission and reception for all applicable band pairs in the band combination (in which case *simultaneousRxTxInterBandCA* is included) or does not support for any band pair in the band combination. It is mandatory for certain band pairs as specified in TS 38.101-1 [2], TS 38.101-2 [3] and TS 38.101-3 [4]. The UE shall consistently set the bits which correspond to the same band pair.	BC	CY	N/A	N/A
simultaneousRxTxSUL Indicates whether the UE supports simultaneous reception and transmission for a NR band combination including SUL. Mandatory/Optional support depends on band combination and captured in TS 38.101-1 [2].	BC	CY	N/A	N/A
simultaneousRxTxSULPerBandPair Indicates whether the UE supports simultaneous reception and transmission for a NR band combination including SUL for each band pair in the band combination. Encoded in the same manner as *simultaneousRxTxInterBandCAPerBandPair*. The UE does not include this field if the UE supports simultaneous transmission and reception for all applicable band pairs in the band combination (in which case *simultaneousRxTxSUL* is included) or does not support for any band pair in the band combination. It is mandatory for certain band pairs as specified in TS 38.101-1 [2]. The UE shall consistently set the bits which correspond to the same band pair.	BC	CY	N/A	N/A
simultaneousSRS-AssocCSI-RS-AllCC Indicates support of CSI-RS processing framework for SRS and the number of SRS resources that the UE can process simultaneously across all CCs, and across MCG and SCG in case of NR-DC, including periodic, aperiodic and semi-persistent SRS. This parameter may further limit *simultaneousSRS-AssocCSI-RS-PerCC* in *MIMO-ParametersPerBand* and *Phy-ParametersFRX-Diff* for each band in a given band combination.	BC	No	N/A	N/A
supportedCSI-RS-ResourceListAlt-r16 Indicates the list of supported CSI-RS resources across all bands in a band combination by referring to *codebookVariantsList*. The following parameters are included in *codebookVariantsList* for each code book type: - *maxNumberTxPortsPerResource* indicates the maximum number of Tx ports in a resource across all bands within a band combination; - *maxNumberResourcesPerBand* indicates the maximum number of resources across all CCs within a band combination, simultaneously; - *totalNumberTxPortsPerBand* indicates the total number of Tx ports across all CCs within a band combination, simultaneously. For each band in a band combination, supported values for these three parameters are determined in conjunction with *supportedCSI-RS-ResourceListAlt* reported in *MIMO-ParametersPerBand*.	BC	No	N/A	N/A
supportedNumberTAG Defines the number of timing advance groups supported by the UE. It is applied to NR CA, NR-DC, (NG)EN-DC/NE-DC and DAPS handover. For (NG)EN-DC/NE-DC, it indicates number of TAGs only for NR CG. The number of TAGs for the LTE MCG is signalled by existing LTE TAG capability signalling. For NR CA/NR-DC band combination, if the band combination comprised of more than one band entry (i.e., inter-band or intra-band non-contiguous band combination), it indicates that different timing advances on different band entries are supported. If absent, the UE supports only one TAG for the NR part. It is mandatory for the UE to support more than one TAG for NR-DC and it is mandatory for the UE to support 2 TAGs for inter-frequency DAPS. For the mixed inter-band and intra-band NR CA/NR-DC band combination, if the network configures more non-contiguous UL serving cells than the number of supported TAG, the UE only supports the configuration where all UL CCs of the same frequency band are configured with the same Timing Advance Group ID.	BC	CY	N/A	N/A

twoPUCCH-Grp-ConfigurationsList-r16 Indicates one or multiple of supported configuration(s) of {primary PUCCH group config, secondary PUCCH group config} for the band combination where for each of the supported configuration the carrier type(s) (FR1-NonSharedTDD, FR1-SharedTDD, FR1-NonSharedFDD, FR2) that can be mapped to a PUCCH group and also the carrier types that can be configured with PUCCH transmission for primary PUCCH group and secondary PUCCH group for NR-CA band combination with 3 or more bands. The capability signalling of each primary or secondary PUCCH group configuration comprises of the following parameters: - *pucch-GroupMapping-r16* indicates the PUCCH group(s) that a carrier type can be mapped to. - pucch-TX-r16 indicates the PUCCH group(s) that a carrier type can be configured for PUCCH transmission NOTE 1: For a band combination with SUL, the SUL band is counted as one of the bands. NOTE 2: For a band combination with SDL, the SDL band is counted as one of the bands. SDL is indicated as 'FR1-NonSharedFDD' carrier type. Per UE capabilities that are TDD only are not applicable to SDL. NOTE 3: When the carrier type of NUL is indicated for PUCCH transmission location, the SUL in the same cell as in the NUL can also be configured for PUCCH transmission. NOTE 4: When the carrier type of NUL is indicated for one PUCCH group config, the SUL in the same cell as in the NUL can also be configured for the PUCCH group. NOTE 5: If UE indicating this field does not support *diffNumerologyAcrossPUCCH-Group-CarrierTypes-r16*, the UE can only be configured with the same SCS across NR PUCCH groups.	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

4.2.7.5 *FeatureSetDownlink* parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
additionalDMRS-DL-Alt Indicates whether the UE supports the alternative additional DMRS position for co-existence with LTE CRS. It is applied to 15kHz SCS and one additional DMRS case only.	FS	No	N/A	FR1 only
cbgPDSCH-ProcessingType1-DifferentTB-PerSlot-r16 Defines whether the UE capable of processing time capability 1 supports CBG based reception with one or with up to two or with up to four or with up to seven unicast PDSCHs per slot per CC.	FS	No	N/A	N/A
cbgPDSCH-ProcessingType2-DifferentTB-PerSlot-r16 Defines whether the UE capable of processing time capability 2 supports CBG based reception with one or with up to two or with up to four or with up to seven unicast PDSCHs per slot per CC.	FS	No	N/A	N/A
crossCarrierSchedulingProcessing-DiffSCS-r16 Indicates the UE cross carrier scheduling processing capability for DL carrier aggregation processing up to X unicast DCI scheduling for DL per scheduled CC. X is based on pair of (scheduling CC SCS, scheduled CC SCS) where a pair of (15,120), (15,60), (30,120) kHz SCS can have X = {1,2,4} while a pair of (15,30), (30,60), (60,120) kHz SCS can have X = {2}, and X applies per slot of scheduling CC.	FS	No	N/A	N/A
csi-RS-MeasSCellWithoutSSB Defines whether the UE can perform CSI-RSRP and CSI-RSRQ measurement as specified in TS 38.215 [13], where CSI-RS resource is configured for a cell that does not transmit SS/PBCH block. A UE that supports this feature shall also support scellWithoutSSB.	FS	No	N/A	N/A
dl-MCS-TableAlt-DynamicIndication Indicates whether the UE supports dynamic indication of MCS table for PDSCH.	FS	No	N/A	N/A
featureSetListPerDownlinkCC Indicates which features the UE supports on the individual DL carriers of the feature set (and hence of a band entry that refer to the feature set) by *FeatureSetDownlinkPerCC-Id*. The order of the elements in this list is not relevant, i.e., the network may configure any of the carriers in accordance with any of the *FeatureSetDownlinkPerCC-Id* in this list. A fallback per CC feature set resulting from the reported feature set per DL CC is not signalled but the UE shall support it.	FS	N/A	N/A	N/A
intraBandFreqSeparationDL, intraBandFreqSeparationDL-v1620 Indicates DL frequency separation class the UE supports, which indicates a maximum frequency separation between lower edge of lowest CC and upper edge of highest CC in a frequency band, for intra-band non-contiguous CA. The UE sets the same value in the FeatureSetDownlink of each band entry within a band. The values mhzX correspond to the values XMHz defined in TS 38.101-2 [3]. It is mandatory to report for UE which supports DL intra-band non-contiguous CA in FR2. If the UE sets the field *intraBandFreqSeparationDL-v1620* it shall set *intraBandFreqSeparationDL* (without suffix) to the nearest smaller value.	FS	CY	N/A	FR2 only
intraBandFreqSeparationDL-Only-r16 Indicates whether the UE supports frequency separation class of DL only extension. If present, the field extends the maximum frequency separation between the lower edge of lowest CC and the upper edge of highest CC in a frequency band that the UE supports according to *intraBandFreqSeparationDL*.The frequency range extension is either above or below the frequency range indicated by *intraBandFreqSeparationDL* and extends it in contiguous manner with no frequency gap, and the network may configure contiguous or non-contiguous downlink serving cells in that extended range. The UE sets the same value in the FeatureSetDownlink of each band entry within a band. The values mhzX correspond to the values XMHz defined in TS38.101-2 [3]. The sum of *intraBandFreqSeparationDL* and *intraBandFreqSeparationDL-Only* shall not exceed 2400 MHz. If the UE sets this field, the sum of *intraBandFreqSeparationDL* and *intraBandFreqSeparationDL-Only* shall be larger than 1400 MHz. A UE supporting this feature shall also support *intraBandFreqSeparationDL*.	FS	No	N/A	FR2 only

intraFreqDAPS-r16 Indicates whether UE supports intra-frequency DAPS handover, e.g. support of simultaneous DL reception of PDCCH and PDSCH from source and target cell. A UE indicating this capability shall also support intra-frequency synchronous DAPS handover, single UL transmission and cancelling UL transmission to the source cell for intra-frequency DAPS handover. The capability signalling comprises of the following parameters: - *intraFreqAsyncDAPS-r16* indicates whether the UE supports asynchronous DAPS handover. - *intraFreqDiffSCS-DAPS-r16* indicates whether the UE supports different SCSs in source PCell and intra-frequency target PCell in DAPS handover. The UE only includes this field if different SCSs can be supported in both UL and DL. If absent, the UE does not support either UL or DL SCS being different in DAPS handover.	FS	No	N/A	N/A
oneFL-DMRS-ThreeAdditionalDMRS-DL Defines whether the UE supports DM-RS pattern for DL transmission with 1 symbol front-loaded DM-RS with three additional DM-RS symbols.	FS	No	N/A	N/A
oneFL-DMRS-TwoAdditionalDMRS-DL Defines support of DM-RS pattern for DL transmission with 1 symbol front-loaded DM-RS with 2 additional DM-RS symbols and more than 1 antenna ports.	FS	Yes	N/A	N/A
pdcch-Monitoring-r16 Indicates whether the UE supports PDCCH search space monitoring occasions in any symbol of the slot with minimum time separation between two consecutive transmissions of PDCCH with span up to two OFDM symbols for two OFDM symbols or span up to three OFDM symbols for four and seven OFDM symbols. The different value can be reported for PDSCH processing type 1 and PDSCH processing type 2, respectively. For each sub-carrier spacing, the leading / leftmost bit (bit 0) corresponds to the supported value set (X,Y) of (7,3). The next bit (bit 1) corresponds to the supported value set (X,Y) of (4,3). The rightmost bit (bit 2) corresponds to the supported value set (X,Y) of (2,2).	FS	No	N/A	N/A
pdcch-MonitoringAnyOccasions Defines the supported PDCCH search space monitoring occasions. withoutDCI-gap indicates whether the UE supports PDCCH search space monitoring occasions in any symbol of the slot for Type 1-PDCCH common search space configured by dedicated RRC signalling, for a Type 3-PDCCH common search space, or for a UE-specific search space with the capability of supporting at least 44, 36, 22, and 20 blind decodes in a slot for 15 kHz, 30 kHz, 60kHz, and 120 kHz subcarrier spacing values respectively. withDCI-gap indicates whether the UE supports PDCCH search space monitoring occasions in any symbol of the slot with minimum time separation of two OFDM symbols for 15 kHz, four OFDM symbols for 30 kHz, seven OFDM symbols for 60 kHz with NCP, and 14OFDM symbols for 120kHz between two consecutive transmissions of PDCCH scrambled with C-RNTI, MCS-C-RNTI, or CS-RNTI for Type 1-PDCCH common search space configured by dedicated RRC signalling, for a Type 3-PDCCH common search space, or for a UE-specific search space, with the capability of supporting at least 44, 36, 22, and 20 blind decodes in a slot for 15 kHz, 30 kHz, 60kHz, and 120 kHz subcarrier spacing values respectively.	FS	No	N/A	N/A
pdcch-MonitoringAnyOccasionsWithSpanGap Indicates whether the UE supports PDCCH search space monitoring occasions in any symbol of the slot with minimum time separation between two consecutive transmissions of PDCCH with span up to two OFDM symbols for two OFDM symbols or span up to three OFDM symbols for four and seven OFDM symbols. Value set1 indicates the supported value set (X,Y) is (7,3), value set2 indicates the supported value set (X,Y) is (4,3) and (7,3) and value set 3 indicates the supported value set (X,Y) is (2,2), (4,3) and (7,3).	FS	No	N/A	N/A
pdcch-MonitoringMixed-r16 Indicates support of Rel-15 monitoring capability and *pdcch-Monitoring-r16* on different serving cells.	FS	No	N/A	N/A
pdsch-ProcessingType1-DifferentTB-PerSlot Defines whether the UE capable of processing time capability 1 supports reception of up to two, four or seven unicast PDSCHs for several transport blocks with PDSCH scrambled using C-RNTI, TC-RNTI, MCS-C-RNTI or CS-RNTI in one serving cell within the same slot per CC that are multiplexed in time domain only. NOTE: PDSCH(s) for Msg.4 is included.	FS	No	N/A	N/A

pdsch-ProcessingType2 Indicates whether the UE supports PDSCH processing capability 2. The UE supports it only if all serving cells are self-scheduled and if all serving cells in one band on which the network configured processingType2 use the same subcarrier spacing. This capability signalling comprises the following parameters for each sub-carrier spacing supported by the UE. - *fallback* indicates whether the UE supports PDSCH processing capability 2 when the number of configured carriers is larger than *numberOfCarriers* for a reported value of *differentTB-PerSlot*. If *fallback* = 'sc', UE supports capability 2 processing time on lowest cell index among the configured carriers in the band where the value is reported, if *fallback* = 'cap1-only', UE supports only capability 1, in the band where the value is reported; - *differentTB-PerSlot* indicates whether the UE supports processing type 2 for 1, 2, 4 and/or 7 unicast PDSCHs for different transport blocks per slot per CC; and if so, it indicates up to which number of CA serving cells the UE supports that number of unicast PDSCHs for different TBs. The UE shall include at least one of *numberOfCarriers* for 1, 2, 4 or 7 transport blocks per slot in this field if *pdsch-ProcessingType2* is indicated.	FS	No	N/A	FR1 only
pdsch-ProcessingType2-Limited Indicates whether the UE supports PDSCH processing capability 2 with scheduling limitation for SCS 30kHz. This capability signalling comprises the following parameter. - *differentTB-PerSlot-SCS-30kHz* indicates the number of different TBs per slot. The UE supports this limited processing capability 2 only if: 1) One carrier is configured in the band, independent of the number of carriers configured in the other bands; 2) The maximum bandwidth of PDSCH is 136 PRBs; 3) N1 based on Table 5.3-2 of TS 38.214 [12] for SCS 30 kHz.	FS	No	N/A	FR1 only
pdsch-SeparationWithGap Indicates whether the UE supports separation of two unicast PDSCHs with a gap, applicable to Sub-carrier spacings of 30 kHz and 60 kHz only. For any two consecutive slots n and n+1, if there are more than 1 unicast PDSCH in either slot, the minimum time separation between starting time of any two unicast PDSCHs within the duration of these slots is 4 OFDM symbols for 30kHz and 7 OFDM symbols for 60kHz.	FS	No	N/A	N/A
scalingFactor Indicates the scaling factor to be applied to the band in the max data rate calculation as defined in 4.1.2. Value f0p4 indicates the scaling factor 0.4, f0p75 indicates 0.75, and so on. If absent, the scaling factor 1 is applied to the band in the max data rate calculation.	FS	No	N/A	N/A
scellWithoutSSB Defines whether the UE supports configuration of SCell that does not transmit SS/PBCH block. This is conditionally mandatory with capability signalling for intra-band CA but not supported for inter-band CA.	FS	CY	N/A	N/A
searchSpaceSharingCA-DL Defines whether the UE supports DL PDCCH search space sharing for carrier aggregation operation.	FS	No	N/A	N/A
singleDCI-SDM-scheme-r16 Indicates whether the UE supports single DCI based spatial division multiplexing scheme.	FS	No	N/A	N/A

supportedSRS-Resources Defines support of SRS resources for SRS carrier switching for a band without associated FeatureSetuplink. The capability signalling comprising indication of: - *maxNumberAperiodicSRS-PerBWP* indicates supported maximum number of aperiodic SRS resources that can be configured for the UE per each BWP - *maxNumberAperiodicSRS-PerBWP-PerSlot* indicates supported maximum number of aperiodic SRS resources per slot in the BWP - *maxNumberPeriodicSRS-PerBWP* indicates supported maximum number of periodic SRS resources per BWP - *maxNumberPeriodicSRS-PerBWP-PerSlot* indicates supported maximum number of periodic SRS resources per slot in the BWP - *maxNumberSemiPersistentSRS-PerBWP* indicate supported maximum number of semi-persistent SRS resources that can be configured for the UE per each BWP - *maxNumberSemiPersistentSRS-PerBWP-PerSlot* indicates supported maximum number of semi-persistent SRS resources per slot in the BWP - *maxNumberSRS-Ports-PerResource* indicates supported maximum number of SRS antenna port per each SRS resource If the UE indicates the support of srs-CarrierSwitch for this band and this field is absent, the UE supports one periodic, one aperiodic, no semi-persistent SRS resources per BWP per slot and one SRS antenna port per SRS resource.	FS	FD	N/A	N/A
timeDurationForQCL Defines minimum number of OFDM symbols required by the UE to perform PDCCH reception and applying spatial QCL information received in DCI for PDSCH processing as described in TS 38.214 [12] clause 5.1.5. The number of OFDM symbols is measured from the end of the last symbol of the PDCCH reception to the start of the first symbol of the PDSCH reception. UE shall indicate one value of the minimum number of OFDM symbols per each subcarrier spacing of 60kHz and 120kHz.	FS	Yes	N/A	FR2 only
twoFL-DMRS-TwoAdditionalDMRS-DL Defines whether the UE supports DM-RS pattern for DL transmission with 2 symbols front-loaded DM-RS with one additional 2 symbols DM-RS.	FS	No	N/A	N/A
type1-3-CSS Defines whether the UE is able to receive PDCCH in FR2 in a Type1-PDCCH common search space configured by dedicated RRC signalling, in a Type3-PDCCH common search space or a UE-specific search space if those are associated with a CORESET with a duration of 3 symbols.	FS	Yes	N/A	FR2 only
ue-SpecificUL-DL-Assignment Indicates whether the UE supports dynamic determination of UL and DL link direction and slot format based on Layer 1 scheduling DCI and higher layer configured parameter *TDD-UL-DL-ConfigDedicated* as specified in TS 38.213 [11].	FS	No	N/A	N/A

4.2.7.6 *FeatureSetDownlinkPerCC* parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
channelBW-90mhz Indicates whether the UE supports the channel bandwidth of 90 MHz. For FR1, the UE shall indicate support according to TS 38.101-1 [2], Table 5.3.5-1.	FSPC	CY	N/A	FR1 only
maxNumberMIMO-LayersPDSCH Defines the maximum number of spatial multiplexing layer(s) supported by the UE for DL reception. For single CC standalone NR, it is mandatory with capability signalling to support at least 4 MIMO layers in the bands where 4Rx is specified as mandatory for the given UE and at least 2 MIMO layers in FR2. If absent, the UE does not support MIMO on this carrier.	FSPC	CY	N/A	N/A
multiDCI-MultiTRP-r16 Indicates whether the UE supports multi-DCI based multi-TRP PDSCH/PUSCH operation and support of fully/partially overlapping PDSCHs in time and non-overlapping in frequency. This capability applies only to BWPs where two values of *coresetPoolIndex* are configured. The capability signalling contains the following: - *maxNumberCORESET-r16* indicates maximum number of CORESETs configured per BWP per cell in addition to CORESET 0 for multi-DCI based multi-TRP PDSCH/PUSCH operation. - *maxNumberCORESETPerPoolIndex-r16* indicates maximum number of CORESETs configured per *coresetPoolIndex* per BWP per cell in addition to CORESET 0 for multi-DCI based multi-TRP PDSCH/PUSCH operation. - *maxNumberUnicastPDSCH-PerPool-r16* indicates maximum number of unicast PDSCHs per *coresetPoolIndex* per slot. NOTE 1: A UE may assume that its maximum receive timing difference between the DL transmissions from two TRPs is within a Cyclic Prefix. NOTE 2: Processing capability 2 is not supported in any CC if at least one CC is configured with two values of *coresetPoolIndex*. NOTE 3: If UE reports value N1 for *maxNumberCORESET-r16*, that means UE supports up to min (N1+1, 5) CORESETs in total (including CORESET#0) if there is CORESET#0, and supports maximal N1 CORESETs if there is no CORESET#0. NOTE 4: If UE reports value N2 for *maxNumberCORESETPerPoolIndex-r16*, that means UE supports up to min (N2+1, 3) CORESETs in total (including CORESET#0) for a TRP if there is CORESET#0, and supports maximal N2 CORESETs for another TRP if there is no CORESET#0. NOTE 5: For the multi-DCI based multi-TRP PUSCH operation, the maximum number of unicast PUSCHs that UE can support per slot is based on *pusch-ProcessingType1-DifferentTB-PerSlot*, and it is counted across both *coresetPoolIndex* of TRPs.	FSPC	No	N/A	N/A

supportedBandwidthDL Indicates maximum DL channel bandwidth supported for a given SCS that UE supports within a single CC (and in case of DAPS handover for the source or target cell), which is defined in Table 5.3.5-1 in TS 38.101-1 [2] for FR1 and Table 5.3.5-1 in TS 38.101-2 [3] for FR2. For FR1, all the bandwidths listed in TS38.101-1 Table 5.3.5-1 for each band shall be mandatory with a single CC unless indicated optional. For FR2, the set of mandatory CBW is 50, 100, 200 MHz. When this field is included in a band combination with a single band entry and a single CC entry (i.e. non-CA band combination), the UE shall indicate the maximum channel bandwidth for the band according to TS 38.101-1 [2] and TS 38.101-2 [3]. The UE may report a *supportedBandwidthDL* wider than the *channelBWs-DL*; this *supportedBandwidthDL* may not be included in the Table 5.3.5-1 of TS 38.101-1[2]/TS 38.101-2[3] for the case that the UE is unable to report the actual supported bandwidth according to the Table 5.3.5-1 of TS 38.101-1[2]/TS 38.101-2[3]. NOTE: To determine whether the UE supports a channel bandwidth of 90 MHz, the network may ignore this capability and validate instead the *channelBW-90mhz*, the *supportedBandwidthCombinationSet* and the *supportedBandwidthCombinationSetIntraENDC*. To determine whether the UE supports a channel bandwidth of 400 MHz, the network validates this capability, the *supportedBandwidthCombinationSet,* and the *supportedBandwidthCombinationSetIntraENDC*. For serving cell(s) with other channel bandwidths the network validates the *channelBWs-DL*, the *supportedBandwidthCombinationSet*, the *supportedBandwidthCombinationSetIntraENDC*, the *asymmetricBandwidthCombinationSet* (for a band supporting asymmetric channel bandwidth as defined in clause 5.3.6 of TS 38.101-1 [2]) and *supportedBandwidthDL*.	FSPC	CY	N/A	N/A
supportedModulationOrderDL Indicates the maximum supported modulation order to be applied for downlink in the carrier in the max data rate calculation as defined in 4.1.2. If included, the network may use a modulation order on this serving cell which is higher than the value indicated in this field as long as UE supports the modulation of higher value for downlink. If not included: - for FR1, the network uses the modulation order signalled in *pdsch-256QAM-FR1*. - for FR2, the network uses the modulation order signalled per band i.e. *pdsch-256QAM-FR2* if signalled. If not signalled in a given band, the network shall use the modulation order 64QAM. In all the cases, it shall be ensured that the data rate does not exceed the max data rate (*DataRate*) and max data rate per CC (*DataRateCC*) according to TS 38.214 [12].	FSPC	No	N/A	N/A
supportedSubCarrierSpacingDL Defines the supported sub-carrier spacing for DL by the UE, as defined in clause 4.2-1 of TS 38.211 [6], indicating the UE supports simultaneous reception with same or different numerologies in CA. Support of simultaneous reception with same numerology for intra-band NR CA including both contiguous and non-contiguous is mandatory with capability in both FR1 and FR2. Support of simultaneous reception with two different numerologies between FR1 band(s) and FR2 band(s) in DL is mandatory with capability if UE supports inter-band NR CA including both FR1 band(s) and FR2 band(s). Optional for other cases. Support of simultaneous reception of with different numerologies in CA for other cases is optional.	FSPC	CY	N/A	N/A
supportFDM-SchemeB-r16 Indicates whether UE supports single DCI based FDMSchemeB.	FSPC	No	N/A	N/A

4.2.7.7 *FeatureSetUplink* parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
scalingFactor Indicates the scaling factor to be applied to the band in the max data rate calculation as defined in 4.1.2. Value f0p4 indicates the scaling factor 0.4, f0p75 indicates 0.75, and so on. If absent, the scaling factor 1 is applied to the band in the max data rate calculation.	FS	No	N/A	N/A
cbgPUSCH-ProcessingType1-DifferentTB-PerSlot-r16 Defines whether the UE capable of processing time capability 1 supports CBG based transmission with one or with up to two or with up to four or with up to seven unicast PUSCHs per slot per CC.	FS	No	N/A	N/A
cbgPUSCH-ProcessingType2-DifferentTB-PerSlot-r16 Defines whether the UE capable of processing time capability 2 supports CBG based transmission with one or with up to two or with up to four or with up to seven unicast PUSCHs per slot per CC.	FS	No	N/A	N/A
crossCarrierSchedulingProcessing-DiffSCS-r16 Indicates the UE cross carrier scheduling processing capability for UL carrier aggregation processing up to X unicast DCI scheduling for UL per scheduled CC. X is based on pair of (scheduling CC SCS, scheduled CC SCS) where a pair of (15,120), (15,60), (30,120) kHz SCS can have X = {1,2,4} while a pair of (15,30), (30,60), (60,120) kHz SCS can have X = {2}, and X applies per slot of scheduling CC.	FS	No	N/A	N/A
dynamicSwitchSUL Indicates whether the UE supports supplemental uplink with dynamic switch (DCI based selection of PUSCH carrier). The UE supports this among a carrier on a band X and a band Y if it sets this capability parameter for both band X and band Y.	FS	No	N/A	N/A
featureSetListPerUplinkCC Indicates which features the UE supports on the individual UL carriers of the feature set (and hence of a band entry that refer to the feature set) by *FeatureSetUplinkPerCC-Id*. The order of the elements in this list is not relevant, i.e., the network may configure any of the carriers in accordance with any of the *FeatureSetUplinkPerCC-Id* in this list. A fallback per CC feature set resulting from the reported feature set per UL CC is not signalled but the UE shall support it.	FS	N/A	N/A	N/A
intraBandFreqSeparationUL, intraBandFreqSeparationUL-v1620 Indicates UL frequency separation class the UE supports, which indicates a maximum frequency separation between lower edge of lowest CC and upper edge of highest CC in a frequency band, for intra-band non-contiguous CA. The UE sets the same value in the FeatureSetUplink of each band entry within a band. The values mhzX corresponds to the values XMHz defined in TS 38.101-2 [3]. It is mandatory to report for UE which supports UL non-contiguous CA in FR2. If the UE sets the field *intraBandFreqSeparationUL-v1620* it shall set *intraBandFreqSeparationUL* (without suffix) to the nearest smaller value.	FS	CY	N/A	FR2 only
intraFreqDAPS-UL-r16 Indicates whether UE supports enhanced uplink capabilities for intra-frequency DAPS handover. The UE only includes this capability signalling if *intraFreqDAPS-r16* is included in the *FeatureSetDownlink* for the same *FeatureSet*. The capability signalling comprises of the following parameter: - *intraFreqTwoTAGs-DAPS-r16* indicates whether the UE supports different timing advance groups in source PCell and intra-frequency target PCell. It is mandatory with capability signalling.	FS	No	N/A	N/A
multiPUCCH-r16 Indicates whether the UE supports more than one PUCCH for HARQ-ACK transmission within a slot. This field includes the following parameters: - *sub-SlotConfig-NCP-r16* indicates the sub-slot configuration for NCP; - *sub-SlotConfig-ECP-r16* indicates the sub-slot configuration for ECP. For NCP, the value *set1* denotes 7-symbol*2, and *set2* denotes 2-symbol*7 and 7-symbol*2. For ECP, the value *set1* denotes 6-symbol*2, and *set2* denotes 2-symbol*6 and 6-symbol*2.	FS	No	N/A	N/A
mux-SR-HARQ-ACK-r16 Indicates whether the UE supports SR/HARQ-ACK multiplexing once per subslot using a PUCCH (or HARQ-ACK piggybacked on a PUSCH) when SR/HARQ-ACK are supposed to be sent with different starting symbols in a subslot.	FS	No	N/A	N/A

offsetSRS-CB-PUSCH-Ant-Switch-fr1-r16 Indicates whether UE requires minimum of 19 symbols offset between aperiodic SRS triggering and transmission for SRS for codebook based PUSCH and antenna switching. UE indicating support of this shall indicate support of *supportedSRS-Resources.*	FS	No	N/A	FR1 only
offsetSRS-CB-PUSCH-PDCCH-MonitorSingleOcc-fr1-r16 Indicates whether UE requires minimum of 19 symbols offset between aperiodic SRS triggering and transmission for SRS for codebook based PUSCH and antenna switching for the case of PDCCH monitoring on any span of up to 3 consecutive OFDM symbols of a slot. UE indicating support of this shall indicate support of *supportedSRS-Resources.*	FS	No	N/A	FR1 only
offsetSRS-CB-PUSCH-PDCCH-MonitorAnyOccWithoutGap-fr1-r16 Indicates whether UE requires minimum of 19 symbols offset between aperiodic SRS triggering and transmission for the case of PDCCH search space monitoring occasions in any symbol of the slot for Type 1-PDCCH common search space configured by dedicated RRC signalling, for a Type 3-PDCCH common search space, or for a UE-specific search space with the capability of supporting at least 44, 36, 22, and 20 blind decodes in a slot for 15 kHz, 30 kHz, 60kHz, and 120 kHz subcarrier spacing values respectively. UE indicating support of this shall indicate support of *supportedSRS-Resources.*	FS	No	N/A	FR1 only
offsetSRS-CB-PUSCH-PDCCH-MonitorAnyOccWithGap-fr1-r16 Indicates whether UE requires minimum of 19 symbols offset between aperiodic SRS triggering and transmission for SRS for codebook based PUSCH and antenna switching for the case of PDCCH search space monitoring occasions in any symbol of the slot with minimum time separation of two OFDM symbols for 15 kHz, four OFDM symbols for 30 kHz, seven OFDM symbols for 60 kHz with NCP, and 14OFDM symbols for 120kHz between two consecutive transmissions of PDCCH scrambled with C-RNTI, MCS-C-RNTI, or CS-RNTI for Type 1-PDCCH common search space configured by dedicated RRC signalling, for a Type 3-PDCCH common search space, or for a UE-specific search space, with the capability of supporting at least 44, 36, 22, and 20 blind decodes in a slot for 15 kHz, 30 kHz, 60kHz, and 120 kHz subcarrier spacing values respectively. UE indicating support of this shall indicate support of *pdcch-MonitoringAnyOccasions* with value *withDCI-Gap* and *supportedSRS-Resources.*	FS	No	N/A	FR1 only
offsetSRS-CB-PUSCH-PDCCH-MonitorAnyOccWithSpanGap-fr1-r16 Indicates whether UE requires minimum of 19 symbols offset between aperiodic SRS triggering and transmission for the case of PDCCH search space monitoring occasions in any symbol of the slot with minimum time separation between two consecutive transmissions of PDCCH with span up to two OFDM symbols for two OFDM symbols or span up to three OFDM symbols for four and seven OFDM symbols. Value set1 indicates the supported value set (X,Y) is (7,3), value set2 indicates the supported value set (X,Y) is (4,3) and (7,3) and value set 3 indicates the supported value set (X,Y) is (2,2), (4,3) and (7,3). UE indicating support of this shall indicate support of *supportedSRS-Resources*.	FS	No	N/A	FR1 only

pa-PhaseDiscontinuityImpacts Indicates incapability motivated by impacts of PA phase discontinuity with overlapping transmissions with non-aligned starting or ending times or hop boundaries across carriers for intra-band (NG)EN-DC/NE-DC, intra-band CA and FDM based ULSUP. This capability applies to: - Intra-band (NG)EN-DC/NE-DC combination without additional inter-band NR and LTE CA component; - Intra-band (NG)EN-DC/NE-DC combination supporting both UL and DL intra-band (NG)EN-DC/NE-DC parts with additional inter-band NR/LTE CA component; - Inter-band (NG)EN-DC/NE-DC combination, where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [4]). If this capability is included in an "Intra-band (NG)EN-DC/NE-DC combination supporting both UL and DL intra-band (NG)EN-DC/NE-DC parts with additional inter-band NR/LTE CA component", this capability applies to the intra-band (NG)EN-DC/NE-DC BC part.	FS	No	N/A	N/A
partialCancellationPUCCH-PUSCH-PRACH-TX-r16 Indicates whether UE supports the partial cancellation of the configured PUCCH or PUSCH or PRACH transmission in set of symbols of a slot due to: - Detection of a DCI format 2_0 with a slot format value other than 255 that indicates a slot format with a subset of symbols from the set of symbols as downlink or flexible; - DCI format 2_0 being configured but not detected, when either a subset of symbols from the set of symbols are indicated as flexible by *tdd-UL-DL-ConfigurationCommon*, and *tdd-UL-DL-ConfigurationDedicated* if provided, or *tdd-UL-DL-ConfigurationCommon* and *tdd-UL-DL-ConfigurationDedicated* are not provided to the UE; - Detection of a DCI format 1_0, DCI format 1_1, DCI format 1_2 or DCI format 0_1 and DCI format 0_2 indicating to the UE to receive CSI-RS or PDSCH in a subset of symbols from the set of symbols.	FS	No	N/A	N/A
pusch-ProcessingType1-DifferentTB-PerSlot Indicates whether the UE capable of processing time capability 1 supports transmission of up to two, four or seven unicast PUSCHs for several transport blocks in one serving cell within the same slot per CC that are multiplexed in time domain only.	FS	No	N/A	N/A
pusch-ProcessingType2 Indicates whether the UE supports PUSCH processing capability 2. The UE supports it only if all serving cells are self-scheduled and if all serving cells in one band on which the network configured processingType2 use the same subcarrier spacing. This capability signalling comprises the following parameters for each sub-carrier spacing supported by the UE. - *fallback* indicates whether the UE supports PUSCH processing capability 2 when the number of configured carriers is larger than *numberOfCarriers* for a reported value of *differentTB-PerSlot*. If *fallback* = 'sc', UE supports capability 2 processing time on lowest cell index among the configured carriers in the band where the value is reported, if *fallback* = 'cap1-only', UE supports only capability 1, in the band where the value is reported; - *differentTB-PerSlot* indicates whether the UE supports processing type 2 for 1, 2, 4 and/or 7 unicast PUSCHs for different transport blocks per slot per CC; and if so, it indicates up to which number of CA serving cells the UE supports that number of unicast PUSCHs for different TBs. The UE shall include at least one of *numberOfCarriers* for 1, 2, 4 or 7 transport blocks per slot in this field if *pusch-ProcessingType2* is indicated.	FS	No	N/A	FR1 only
pusch-RepetitionTypeB-r16 Indicates whether the UE supports PUSCH repetition type B, as specified in 6.1.2 of TS 38.214 [12].	FS	No	N/A	N/A

pusch-SeparationWithGap Indicates whether the UE supports separation of two unicast PUSCHs with a gap, applicable to Sub-carrier spacings of 15 kHz, 30 kHz and 60 kHz only. For any two consecutive slots n and n+1, if there are more than 1 unicast PUSCH in either slot, the minimum time separation between starting time of any two unicast PUSCHs within the duration of these slots is 2 OFDM symbols for 15kHz, 4 OFDM symbols for 30kHz and 7 OFDM symbols for 60kHz.	FS	No	N/A	N/A
searchSpaceSharingCA-UL Defines whether the UE supports UL PDCCH search space sharing for carrier aggregation operation.	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
srs-PosResources-r16 Indicates support of SRS for positioning. UE supporting this feature should also support open loop power control for positioning SRS based on SSB from the serving cell. The capability signalling comprises the following parameters: - *maxNumberSRS-PosResourceSetPerBWP-r16* Indicates the max number of SRS Resource Sets for positioning supported by UE per BWP*;* - *maxNumberSRS-PosResourcesPerBWP-r16* indicates the max number of SRS resources for positioning supported by UE per BWP, including periodic, semi-persistent, and aperiodic SRS; - *maxNumberSRS-ResourcesPerBWP-PerSlot-r16* indicates the max number of SRS resources configured by *SRS-Resource* and *SRS-PosResource-r16* supported by UE per BWP, including periodic, semi-persistent, and aperiodic SRS; - *maxNumberPeriodicSRS-PosResourcesPerBWP-r16* indicates the max number of periodic SRS resources for positioning supported by UE per BWP; - *maxNumberPeriodicSRS-PosResourcesPerBWP-PerSlot-r16* indicates the max number of periodic SRS resources for positioning supported by UE per BWP per slot.	FS	No	N/A	N/A
srs-PosResourceAP-r16 Indicates support of aperiodic SRS for positioning. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field. The capability signalling comprises the following parameters: - *maxNumberAP-SRS-PosResourcesPerBWP-r16* indicates the max number of aperiodic SRS resources for positioning supported by UE per BWP; - *maxNumberAP-SRS-PosResourcesPerBWP-PerSlot-r16* indicates the max number of aperiodic SRS resources for positioning supported by UE per BWP per slot.	FS	No	N/A	N/A
srs-PosResourceSP-r16 Indicates support of semi-persistent SRS for positioning. The UE can include this field only if the UE supports *srs-PosResources-r16*. Otherwise, the UE does not include this field. The capability signalling comprises the following parameters: - *maxNumberSP-SRS-PosResourcesPerBWP-r16* indicates the max number of semi-persistent SRS resources for positioning supported by UE per BWP; - *maxNumberSP-SRS-PosResourcesPerBWP-PerSlot-r16* indicates the max number of semi-persistent SRS resources for positioning supported by UE per BWP per slot	FS	No	N/A	N/A

supportedSRS-Resources Defines support of SRS resources. The capability signalling comprising indication of: - *maxNumberAperiodicSRS-PerBWP* indicates supported maximum number of aperiodic SRS resources that can be configured for the UE per each BWP - *maxNumberAperiodicSRS-PerBWP-PerSlot* indicates supported maximum number of aperiodic SRS resources per slot in the BWP - *maxNumberPeriodicSRS-PerBWP* indicates supported maximum number of periodic SRS resources per BWP - *maxNumberPeriodicSRS-PerBWP-PerSlot* indicates supported maximum number of periodic SRS resources per slot in the BWP - *maxNumberSemiPersistentSRS-PerBWP* indicate supported maximum number of semi-persistent SRS resources that can be configured for the UE per each BWP - *maxNumberSemiPersistentSRS-PerBWP-PerSlot* indicates supported maximum number of semi-persistent SRS resources per slot in the BWP - *maxNumberSRS-Ports-PerResource* indicates supported maximum number of SRS antenna port per each SRS resource. If this field is not included, the UE supports one periodic, one aperiodic, no semi-persistent SRS resources per BWP and one periodic, one aperiodic, no semi-persistent SRS resources per BWP per slot and one SRS antenna port per SRS resource.	FS	FD	N/A	N/A
twoHARQ-ACK-Codebook-type1-r16 Indicates whether the UE supports two HARQ-ACK codebooks with up to one subslot based HARQ-ACK codebook (i.e. slot-based + slot-based, or slot-based + subslot based) simultaneously constructed for supporting HARQ-ACK codebooks with different priorities at a UE. The capability signalling comprises the following parameters: - *sub-SlotConfig-NCP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for NCP with 2-symbol*7 sub-slot configuration; - *sub-SlotConfig-ECP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for ECP with 2-symbol*6 sub-slot configuration; For the 7-symbol*2 sub-slot configuration of NCP or the 6-symbol*2 sub-slot configuration of ECP, the value of the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot is {2}. NOTE 1: If the UE indicates support of this feature and is simultaneously configured with two slot-based HARQ-ACK codebooks: - whether the UE supports two PUCCH of format 0 or 2 in consecutive symbols in the same slot for each HARQ-ACK codebook is subject to the capability reported by *twoPUCCH-F0-2-ConsecSymbols*. - whether the UE supports one PUCCH format 0 or 2 and one PUCCH format 1, 3 or 4 in the same slot for each HARQ-ACK codebook is subject to the capability reported by *onePUCCH-LongAndShortFormat*. - whether the UE supports two PUCCH transmissions in the same slot for each HARQ-ACK codebook not covered by *twoPUCCH-F0-2-ConsecSymbols* and *onePUCCH-LongAndShortFormat* is subject to the capability reported by *twoPUCCH-AnyOthersInSlot*. NOTE 2: If a UE reports both *multiPUCCH-r16* and *twoHARQ-ACK-Codebook-type1-r16*, 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 *twoHARQ-ACK-Codebook-type1-r16* but does not report *multiPUCCH-r16*, it can only support two slot-based HARQ-ACK codebooks.	FS	No	N/A	N/A

twoHARQ-ACK-Codebook-type2-r16 Indicates whether the UE supports two subslot based HARQ-ACK codebooks simultaneously constructed for supporting HARQ-ACK codebooks with different priorities at a UE. The capability signalling comprises the following parameters: - *sub-SlotConfig-NCP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for NCP with 2-symbol*7 sub-slot configuration; - *sub-SlotConfig-ECP-r16* indicates the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot for ECP with 2-symbol*6 sub-slot configuration; For the 7-symbol*2 sub-slot configuration of NCP or the 6-symbol*2 sub-slot configuration of ECP, the value of the maximum number of actual PUCCH transmissions for HARQ-ACK within a slot is {2}.	FS	No	N/A	N/A
twoPUCCH-Group Indicates whether two PUCCH group in CA with a same numerology across CCs for data and control channel [at a given time] is supported by the UE. For NR CA, two PUCCH group is supported with the same numerology across NR carriers for data and control channel at a given time. For (NG)EN-DC/NE-DC, two PUCCH group is supported with the same numerology across NR carriers for data and control channel at a given time, wherein an NR PUCCH group is configured in FR1 and another NR PUCCH group is configured in FR2. The UE supports two PUCCH groups with PUCCH on a band X and a band Y if it sets this capability parameter for both band X and band Y.	FS	No	N/A	N/A
twoPUCCH-Type1-r16 Indicates whether the UE supports two PUCCH of format 0 or 2 in the same subslot for a single 7*2-symbol subslot based HARQ-ACK codebook.	FS	No	N/A	N/A
twoPUCCH-Type2-r16 Indicates whether the UE supports two PUCCH of format 0 or 2 in consecutive symbols in the same subslot for a single 2*7-symbol subslot based HARQ-ACK codebook.	FS	No	N/A	N/A
twoPUCCH-Type3-r16 Indicates whether the UE supports one PUCCH format 0 or 2 and one PUCCH format 1, 3 or 4 in the same subslot for a single 2*7-symbol HARQ-ACK codebook.	FS	No	N/A	N/A
twoPUCCH-Type4-r16 Indicates whether the UE supports two PUCCH transmissions in the same subslot for a single 2*7-symbol HARQ-ACK codebook which are not covered by *twoPUCCH-Type2-r16* and *twoPUCCH-Type3-r16*.	FS	No	N/A	N/A
twoPUCCH-Type5-r16 Indicates whether the UE supports two PUCCH of format 0 or 2 for two HARQ-ACK codebooks with one 7*2-symbol subslot based HARQ-ACK codebook and one slot based HARQ-ACK codebook.	FS	No	N/A	N/A
twoPUCCH-Type6-r16 Indicates whether the UE supports two PUCCH of format 0 or 2 in consecutive symbols in the same subslot for two HARQ-ACK codebooks with one 2*7-symbol subslot based HARQ-ACK codebook and one slot based HARQ-ACK codebook.	FS	No	N/A	N/A
twoPUCCH-Type7-r16 Indicates whether the UE supports two PUCCH of format 0 or 2 in consecutive symbols in the same subslot for two subslot based HARQ-ACK codebooks.	FS	No	N/A	N/A
twoPUCCH-Type8-r16 Indicates whether the UE supports one PUCCH format 0 or 2 and one PUCCH format 1, 3 or 4 in the same subslot for two HARQ-ACK codebooks with one 2*7-symbol subslot based HARQ-ACK codebook and one slot based HARQ-ACK codebook.	FS	No	N/A	N/A
twoPUCCH-Type9-r16 Indicates whether the UE supports one PUCCH format 0 or 2 and one PUCCH format 1, 3 or 4 in the same subslot for two subslot based HARQ-ACK codebooks.	FS	No	N/A	N/A
twoPUCCH-Type10-r16 Indicates whether the UE supports two PUCCH transmissions in the same subslot for two HARQ-ACK codebooks with one 2*7-symbol subslot and one slot based HARQ-ACK codebook which are not covered by *twoPUCCH-Type6-r16* and *twoPUCCH-Type8-r16*.	FS	No	N/A	N/A
twoPUCCH-Type11-r16 Indicates whether the UE supports two PUCCH transmissions in the same subslot for two subslot based HARQ-ACK codebooks which are not covered by *twoPUCCH-Type7-r16* and *twoPUCCH-Type9-r16*.	FS	No	N/A	N/A

ul-CancellationCrossCarrier-r16 Indicates whether the UE supports UL cancellation scheme for cross-carrier comprised of the following functional components: - Supports group common DCI (i.e. DCI format 2_4) for cancellation indication on a different DL CC than that scheduling PUSCH or SRS; - UL cancellation for PUSCH. Cancellation is applied to each PUSCH repetition individually in case of PUSCH repetitions; - UL cancellation for SRS symbols that overlap with the cancelled symbols.	FS	No	N/A	N/A
ul-CancellationSelfCarrier-r16 Indicates whether the UE supports UL cancellation scheme for self-carrier comprised of the following functional components: - Supports group common DCI (i.e. DCI format 2_4) for cancellation indication on the same DL CC as that scheduling PUSCH or SRS; - UL cancellation for PUSCH. Cancellation is applied to each PUSCH repetition individually in case of PUSCH repetitions; - UL cancellation for SRS symbols that overlap with the cancelled symbols.	FS	No	N/A	N/A
ul-FullPwrMode-r16 Indicates the UE support of UL full power transmission mode of *fullpower* as specified in clause 7.1 of TS 38.213 [11]. If the UE indicates this capability the UE also indicates the support of codebook based PUSCH MIMO transmission using *mimo-CB-PUSCH* and the support of PUSCH codebook coherency subset using *pusch-TransCoherence.*	FS	No	N/A	N/A
ul-FullPwrMode1-r16 Indicates the UE support of UL full power transmission mode of *fullpowerMode1*. If the UE indicates this capability the UE also indicates the support of codebook based PUSCH MIMO transmission using *mimo-CB-PUSCH* and the support of PUSCH codebook coherency subset using *pusch-TransCoherence.*	FS	No	N/A	N/A
ul-FullPwrMode2-MaxSRS-ResInSet-r16 Indicates the UE support of the maximum number of SRS resources in one SRS resource set with usage set to 'codebook' for uplink full power Mode 2 operation. If the UE indicates this capability the UE also indicates the support of codebook based PUSCH MIMO transmission using *mimo-CB-PUSCH* and the support of PUSCH codebook coherency subset using *pusch-TransCoherence.* A UE supports this feature shall support at least full power operation with single port.	FS	No	N/A	N/A
ul-FullPwrMode2-SRSConfig-diffNumSRSPorts-r16 Indicates the UE supported SRS configuration with different number of antenna ports per SRS resource for uplink full power Mode 2 operation. The possible different number of antenna ports that can be configured for a SRS resource are as follow: - value *p1-2* means that each SRS resource can be configured with 1 port or 2 ports - value *p1-4* means that each SRS resource can be configured with 1 port or 4 ports - value *p1-2-4* means that each SRS resource can be configured with 1 port or 2 ports or 4 ports UE indicates support of this feature shall also indicate support of *ul-FullPwrMode2-MaxSRS-ResInSet.* NOTE: The values *p1-2*, *p1-4* or *p1-2-4* can be used if *ul-FullPwrMode2-MaxSRS-ResInSet* is reported as *n2* or *n4*.	FS	No	N/A	N/A

ul-FullPwrMode2-TPMIGroup-r16 Indicates the UE supported TPMI group(s) which delivers full power. The capability signalling comprises the following values: - *twoPorts-r16* indicates a 2-bit bitmap, where the leading / leftmost bit (bit 0) corresponds to {TPMI index = 0}. The next bit (bit 1) corresponds to {TPMI index = 1} and the TPMI index is as specified in Table 6.3.1.5-1 of TS 38.211 [6] - *fourPortsNonCoherent-r16* indicates the TPMI groups {G0-3} - *fourPortsPartialCoherent-r16* indicates the TPMI groups {G0-6} UE indicates support of this feature shall also indicate support of *ul-FullPwrMode2-MaxSRS-ResInSet.* Definition of G0~G6 can be found in the table below:	FS	No	N/A	N/A

ID	TPMI groups
G0	$\frac{1}{2}\begin{bmatrix}1\\0\\0\\0\end{bmatrix},$
G1	$\frac{1}{2}\begin{bmatrix}1\\0\\0\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0\\0\\1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&0\\0&1\\0&0\end{bmatrix},$
G2	$\frac{1}{2}\begin{bmatrix}1\\0\\0\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0\\1\\0\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0\\0\\1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&1\\0&0\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0&0\\1&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0&0\\0&1&0\\0&0&1\\0&0&0\end{bmatrix}$
G3	$\frac{1}{2}\begin{bmatrix}1&0\\0&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&1\\0&0\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0&0\\1&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0&0\\0&1&0\\0&0&1\\0&0&0\end{bmatrix}$
G4	$\frac{1}{2}\begin{bmatrix}1\\0\\1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\-1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\j\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\-j\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&0\\0&1\\0&0\end{bmatrix}$
G5	$\frac{1}{2}\begin{bmatrix}1\\0\\1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\-1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\j\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\-j\\0\end{bmatrix} \frac{1}{2}\begin{bmatrix}1&0\\0&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&1\\0&0\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0&0\\1&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0&0\\0&1&0\\0&0&1\\0&0&0\end{bmatrix}$
G6	$\frac{1}{2}\begin{bmatrix}1\\0\\1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\-1\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\j\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1\\0\\-j\\0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0\\1\\0\\1\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0\\1\\0\\-1\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0\\1\\0\\j\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0\\1\\0\\-j\end{bmatrix}$ $\frac{1}{2}\begin{bmatrix}1&0\\0&1\\0&0\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0\\0&0\\0&0\\0&1\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0&0\\1&0\\0&1\\0&0\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0&0\\1&0\\0&0\\0&1\end{bmatrix}, \frac{1}{2}\begin{bmatrix}0&0\\0&0\\1&0\\0&1\end{bmatrix}, \frac{1}{2}\begin{bmatrix}1&0&0\\0&1&0\\0&0&1\\0&0&0\end{bmatrix}$

NOTE 1: When a full coherent UE operates in mode 2, it reports TPMIs the same as a partial-coherent UE.

NOTE 2: For 4 port partial-coherent or full-coherent UE, UE can report: 2-port {2-bit bitmap} and one of 4-port non-coherent {G0~G3} and one of 4-port partial-coherent {G0~G6}
For 4 port non-coherent UE, UE can report: 2-port {2-bit bitmap} and one of 4-port non-coherent {G0~G3}
For 2 port UE, UE can report: 2-port {2-bit bitmap}

NOTE 3: A UE that supports this feature must report at least one of the values.

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-MCS-TableAlt-DynamicIndication Indicates whether the UE supports dynamic indication of MCS table using MCS-C-RNTI for PUSCH.	FS	No	N/A	N/A
zeroSlotOffsetAperiodicSRS Indicates whether the UE supports 0 slot offset between aperiodic SRS triggering and transmission, for SRS for CB PUSCH and antenna switching on FR1.	FS	No	N/A	N/A

4.2.7.8 *FeatureSetUplinkPerCC* parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
channelBW-90mhz Indicates whether the UE supports the channel bandwidth of 90 MHz. For FR1, the UE shall indicate support according to TS 38.101-1 [2], Table 5.3.5-1.	FSPC	CY	N/A	FR1 only
maxNumberMIMO-LayersCB-PUSCH Defines supported maximum number of MIMO layers at the UE for PUSCH transmission with codebook precoding. UE indicating support of this feature shall also indicate support of PUSCH codebook coherency subset. This feature is not supported for SUL.	FSPC	No	N/A	N/A
maxNumberMIMO-LayersNonCB-PUSCH Defines supported maximum number of MIMO layers at the UE for PUSCH transmission using non-codebook precoding. This feature is not supported for SUL. UE supporting non-codebook based PUSCH transmission shall indicate support of *maxNumberMIMO-LayersNonCB-PUSCH, maxNumberSRS-ResourcePerSet* and *maxNumberSimultaneousSRS-ResourceTx* together.	FSPC	No	N/A	N/A
maxNumberSimultaneousSRS-ResourceTx Defines the maximum number of simultaneous transmitted SRS resources at one symbol for non-codebook based transmission to the UE. This feature is not supported for SUL.	FSPC	No	N/A	N/A
maxNumberSRS-ResourcePerSet Defines the maximum number of SRS resources per SRS resource set configured for codebook or non-codebook based transmission to the UE. This feature is not supported for SUL.	FSPC	No	N/A	N/A
supportedBandwidthUL Indicates maximum UL channel bandwidth supported for a given SCS that UE supports within a single CC (and in case of DAPS handover for the source or target cell), which is defined in Table 5.3.5-1 in TS38.101-1 [2] for FR1 and Table 5.3.5-1 in TS 38.101-2 [3] for FR2. For FR1, all the bandwidths listed in TS38.101-1 Table 5.3.5-1 for each band shall be mandatory with a single CC unless indicated optional. For FR2, the set of mandatory CBW is 50, 100, 200 MHz. When this field is included in a band combination with a single band entry and a single CC entry (i.e. non-CA band combination), the UE shall indicate the maximum channel bandwidth for the band according to TS 38.101-1 [2] and TS 38.101-2 [3]. The UE may report a *supportedBandwidthUL* wider than the *channelBWs-UL*; this *supportedBandwidthUL* may not be included in the Table 5.3.5-1 of TS 38.101-1[2]/TS 38.101-2[3] for the case that the UE is unable to report the actual supported bandwidth according to the Table 5.3.5-1 of TS 38.101-1[2]/TS 38.101-2[3]. NOTE: To determine whether the UE supports a channel bandwidth of 90 MHz the network may ignore this capability and validate instead the *channelBW-90mhz*, the *supportedBandwidthCombinationSet* and the *supportedBandwidthCombinationSetIntraENDC*. To determine whether the UE supports a channel bandwidth of 400 MHz, the network validates this capability, the *supportedBandwidthCombinationSet,* and the *supportedBandwidthCombinationSetIntraENDC*. For serving cell(s) with other channel bandwidths the network validates the *channelBWs-UL*, the *supportedBandwidthCombinationSet*, the *supportedBandwidthCombinationSetIntraENDC*, the *asymmetricBandwidthCombinationSet* (for a band supporting asymmetric channel bandwidth as defined in clause 5.3.6 of TS 38.101-1 [2]) and *supportedBandwidthUL*.	FSPC	CY	N/A	N/A
supportedModulationOrderUL Indicates the maximum supported modulation order to be applied for uplink in the carrier in the max data rate calculation as defined in 4.1.2. If included, the network may use a modulation order on this serving cell which is higher than the value indicated in this field as long as UE supports the modulation of higher value for uplink. If not included, - for FR1 and FR2, the network uses the modulation order signalled per band i.e. *pusch-256QAM* if signalled. If not signalled in a given band, the network shall use the modulation order 64QAM. In all the cases, it shall be ensured that the data rate does not exceed the max data rate (*DataRate*) and max data rate per CC (*DataRateCC*) according to TS 38.214 [12].	FSPC	No	N/A	N/A

supportedSubCarrierSpacingUL Defines the supported sub-carrier spacing for UL by the UE, as defined in 4.2-1 of TS 38.211 [6], indicating the UE supports simultaneous transmission with same or different numerologies in CA, or indicating the UE supports different numerologies on NR UL and SUL within one cell. Support of simultaneous transmissions with same numerology for intra-band NR CA including both contiguous and non-contiguous is mandatory with capability in both FR1 and FR2. Support of simultaneous transmission with two different numerologies between FR1 band(s) and FR2 band(s) in UL is mandatory with capability if UE supports inter-band NR CA including both FR1 band(s) and FR2 band(s). Support of simultaneous transmission with different numerologies in CA for other cases is optional.	FSPC	CY	N/A	N/A

4.2.7.9 *MRDC-Parameters*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
asyncIntraBandENDC Indicates whether the UE supports asynchronous FDD-FDD intra-band (NG)EN-DC with MRTD and MTTD as specified in clause 7.5 and 7.6 of TS 38.133 [5]. If asynchronous FDD-FDD intra-band (NG)EN-DC is not supported, the UE supports only synchronous FDD-FDD intra-band (NG)EN-DC. This capability applies to: - Intra-band (NG)EN-DC combination without additional inter-band NR and LTE CA component; - Intra-band (NG)EN-DC combination supporting both UL and DL intra-band (NG)EN-DC parts with additional inter-band NR/LTE CA component; - Intra-band (NG)EN-DC combination without supporting UL in both the bands of the intra-band (NG)EN-DC UL part; - Inter-band (NG)EN-DC combination, where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [4]). If this capability is included in an "Intra-band (NG)EN-DC combination supporting both UL and DL intra-band (NG)EN-DC parts with additional inter-band NR/LTE CA component" or in an "Intra-band (NG)EN-DC combination without supporting UL in both the bands of the intra-band (NG)EN-DC UL part", this capability applies to the intra-band (NG)EN-DC BC part.	BC	No	FDD only	FR1 only
dualPA-Architecture For an intra-band band combination, this field indicates the support of dual PAs. If absent in an intra-band band combination, the UE supports single PA for all the ULs in the intra-band band combination. For other band combinations, this field is not applicable. This capability applies to: - Intra-band (NG)EN-DC/NE-DC combination without additional inter-band NR and LTE CA component; - Intra-band (NG)EN-DC/NE-DC combination supporting both UL and DL intra-band (NG)EN-DC/NE-DC parts with additional inter-band NR/LTE CA component; - Inter-band (NG)EN-DC/NE-DC combination, where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [4]). If this capability is included in an "Intra-band (NG)EN-DC/NE-DC combination supporting both UL and DL intra-band (NG)EN-DC/NE-DC parts with additional inter-band NR/LTE CA component", this capability applies to the intra-band (NG)EN-DC/NE-DC BC part.	BC	No	N/A	N/A
dynamicPowerSharingENDC Indicates whether the UE supports dynamic (NG)EN-DC power sharing between NR FR1 carriers and the LTE carriers. If the UE supports this capability the UE supports the dynamic power sharing behaviour as specified in clause 7 of TS 38.213 [11]. In this release of the specification, the UE supporting (NG)EN-DC shall set this field to *supported.*	BC	Yes	N/A	FR1 only
dynamicPowerSharingNEDC Indicates whether the UE supports dynamic NE-DC power sharing between NR FR1 carriers and the LTE carriers. If the UE supports this capability, the UE supports the dynamic power sharing behavior as specified in clause 7 of TS 38.213 [11].	BC	Yes	N/A	FR1 only
intraBandENDC-Support Indicates whether the UE supports intra-band (NG)EN-DC with only non-contiguous spectrum, or with both contiguous and non-contiguous spectrum for the (NG)EN-DC combination as specified in TS 38.101-3 [4]. If the UE does not include this field for an intra-band (NG)EN-DC combination the UE only supports the contiguous spectrum for the intra-band (NG)EN-DC combination.	BC	No	N/A	N/A

interBandContiguousMRDC Indicates for an inter-band (NG)EN-DC/NE-DC combination, where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [4]), that the UE supports intra-band contiguous (NG)EN-DC/NE-DC requirements (see TS 38.101-3 [4]). If the field is absent for such an inter-band (NG)EN-DC/NE-DC combination, the UE supports intra-band non-contiguous (NG)EN-DC/NE-DC requirements.	BC	CY	N/A	N/A
interBandMRDC-WithOverlapDL-Bands-r16 Indicates the UE supports FDD-FDD or TDD-TDD inter-band (NG)EN-DC/NE-DC operation with overlapping or partially overlapping DL bands with an (NG)EN-DC/NE-DC MRTD according to clause 7.6.2/7.6.5 in 38.133 [5] and inter-band RF requirements (i.e Type 2 UE). If the capability is not reported, the UE supports FDD-FDD or TDD-TDD inter-band operation with overlapping or partially DL bands with (NG)EN-DC/NE-DC MRTD<3us according to clause 7.6.3 in 38.133 [5] and intra-band RF requirements (i.e. Type 1 UE).	BC	No	N/A	FR1 only
simultaneousRxTxInterBandENDC Indicates whether the UE supports simultaneous transmission and reception in TDD-TDD and TDD-FDD inter-band (NG)EN-DC/NE-DC. It is mandatory for certain TDD-FDD and TDD-TDD band combinations defined in TS 38.101-3 [4]. This capability applies to: - TDD-TDD and TDD-FDD Intra-band (NG)EN-DC/NE-DC combination supporting both UL and DL intra-band (NG)EN-DC/NE-DC parts with additional inter-band NR/LTE CA component; - TDD-TDD and TDD-FDD Intra-band (NG)EN-DC/NE-DC combination without supporting UL in both the bands of the intra-band (NG)EN-DC/NE-DC UL part; - TDD-TDD and TDD-FDD Inter-band (NG)EN-DC/NE-DC combination without Intra-band component. This capability is not applicable to the inter-band (NG)EN-DC/NE-DC combination, where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [4]).	BC	CY	N/A	N/A
simultaneousRxTxInterBandENDCPerBandPair Indicates whether the UE supports simultaneous transmission and reception in TDD-TDD and TDD-FDD inter-band (NG)EN-DC/NE-DC for each band pair in the band combination. Encoded in the same manner as *simultaneousRxTxInterBandCAPerBandPair*. The UE does not include this field if the UE supports simultaneous transmission and reception for all applicable band pairs in the band combination (in which case *simultaneousRxTxInterBandENDC* is included) or does not support for any band pair in the band combination. It is mandatory for certain band pairs as specified in TS 38.101-3 [4]. The UE shall consistently set the bits which correspond to the same band pair. Each bit of the capability only applies to TDD-TDD and TDD-FDD Inter-band (NG)EN-DC/NE-DC band pairs, except for the band pairs where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [4]).	BC	CY	N/A	N/A
singleUL-HARQ-offsetTDD-PCell-r16 Indicate support of HARQ offset for single UL transmission in synchronous (NG)EN-DC with LTE TDD PCell. UE indicates support of this feature shall indicate support of *tdm-restrictionTDD-endc-r16.*	BC	No	N/A	N/A
singleUL-Transmission Indicates that the UE does not support simultaneous UL transmissions as defined in TS 38.101-3 [4]. The UE may only include this field for certain band combinations defined in TS 38.101-3 [4]. If included for a particular band combination, the field applies to all fallback band combinations of this band combination that are defined in TS 38.101-3 [4] as being allowed to include this field and does not apply to any other fallback band combinations defined in TS 38.101-3 [4]. The UE shall include this field for band combinations containing a band pair for which single UL transmission is the only specified operation mode in TS 38.101-3 [4] and if the UE supports UL on both bands. Otherwise, this feature is optional.	BC	FD	N/A	N/A

spCellPlacement Indicates whether the UE supports a SpCell on FR1-FDD, FR1-TDD and/or FR2-TDD depending on which additional SCells of other frequency range(s) / duplex mode(s) are configured. It is applicable to SCG of (NG)EN-DC and MCG of NE-DC, where UL is configured on more than one of FR1-FDD, FR1-TDD and FR2-TDD in a cell group. If not included, the UE supports SpCell on any serving cell with UL in supported band combinations.	UE	No	N/A	N/A
tdm-Pattern Indicates whether the UE supports the *tdm-PatternConfig* for *single UL-transmission* associated functionality, as specified in TS 36.331 [17]. Support is conditionally mandatory in (NG)EN-DC for UEs that do not support dynamicPowerSharingENDC and for UEs that indicate single UL transmission for any (NG)EN-DC BC. Support is conditionally mandatory in NE-DC for UEs that do not support dynamicPowerSharingNEDC and for UEs that indicate single UL transmission for any NE-DC BC. The feature is optional otherwise.	BC	CY	N/A	FR1 only
tdm-restrictionDualTX-FDD-endc-r16 Indicates whether the UE supports TDM restriction to LTE FDD PCell in (NG)EN-DC for dual UL transmission operation when *tdm-PatternConfig2-R16* is configured, as specified in TS 36.331 [17]. UE indicates support this feature shall also indicate support of *tdm-Pattern*.	BC	No	N/A	FR1 only
tdm-restrictionFDD-endc-r16 Indicates whether the UE supports TDM restriction to LTE FDD PCell for single UL-transmission associated functionality when *tdm-PatternConfig2-R16* is configured, as specified in TS 36.331 [17]. This is applicable for FDD (NG)EN-DC. UE indicates support this feature shall also indicate support of *tdm-Pattern*.	BC	No	N/A	FR1 only
tdm-restrictionTDD-endc-r16 Indicates whether the UE supports TDM restriction to LTE TDD PCell for single UL-transmission associated functionality when *tdm-PatternConfig2-R16* is configured, as specified in TS 36.331 [17]. This is applicable for synchronous TDD-TDD (NG)EN-DC.	BC	No	N/A	FR1 only
ul-SharingEUTRA-NR Indicates whether the UE supports (NG)EN-DC/NE-DC with EUTRA-NR coexistence in UL sharing via TDM only, FDM only, or both TDM and FDM from UE perspective as specified in TS 38.101-3 [4].	BC	No	N/A	FR1 only
ul-SwitchingTimeEUTRA-NR Indicates support of switching type between LTE UL and NR UL for (NG)EN-DC/NE-DC with LTE-NR coexistence in UL sharing from UE perspective as defined in clause 6.3B of TS 38.101-3 [4]. It is mandatory to report switching time type 1 or type 2 if UE reports *ul-SharingEUTRA-NR* is *tdm* or *both*.	BC	CY	N/A	FR1 only
ul-TimingAlignmentEUTRA-NR Indicates whether to apply the same UL timing between NR and LTE for dynamic power sharing capable UE operating in a synchronous intra-band contiguous (NG)EN-DC. If this field is absent, UE shall be capable of handling a timing difference up to applicable MTTD requirements when operating in a synchronous intra-band contiguous (NG)EN-DC network, as specified in TS 38.133 [5]. This capability applies to: - Intra-band contiguous (NG)EN-DC combination without additional inter-band NR and LTE CA component; - Intra-band contiguous (NG)EN-DC combination supporting both UL and DL intra-band (NG)EN-DC parts with additional inter-band NR/LTE CA component; - Inter-band (NG)EN-DC combination, where the frequency range of the E-UTRA band is a subset of the frequency range of the NR band (as specified in Table 5.5B.4.1-1 of TS 38.101-3 [4]). If this capability is included in an "Intra-band contiguous (NG)EN-DC combination supporting both UL and DL intra-band (NG)EN-DC parts with additional inter-band NR/LTE CA component", this capability applies to the intra-band (NG)EN-DC BC part.	BC	No	N/A	N/A

maxUplinkDutyCycle-interBandENDC-TDD-PC2-r16 Indicates the maximum percentage of symbols during a certain evaluation period that can be scheduled for NR uplink transmission under different EUTRA TDD uplink-downlink configurations so as to ensure compliance with applicable electromagnetic energy absorption requirements provided by regulatory bodies. This field is only applicable for inter-band TDD+TDD EN-DC power class 2 UE as specified in TS 38.101-3 [4]. If the field is absent, 30% shall be applied to all EUTRA TDD uplink-downlink configurations. If *eutra-TDD-Configx* is absent, 30% shall be applied to the corresponding EUTRA TDD uplink-downlink configuration. Value n20 corresponds to 20%, value n40 corresponds to 40% and so on.	BC	No	TDD only	FR1 only
maxUplinkDutyCycle-interBandENDC-FDD-TDD-PC2-r16 Indicates the maximum percentage of symbols during a certain evaluation period that can be scheduled for NR uplink transmission and EUTRA FDD uplink transmission so as to ensure compliance with applicable electromagnetic energy absorption requirements provided by regulatory bodies. This field is only applicable for inter-band FDD+TDD EN-DC power class 2 UE as specified in TS 38.101-3 [4]. This capability signalling comprises of *maxUplinkDutyCycle-FDD-TDD-EN-DC1* and *maxUplinkDutyCycle-FDD-TDD-EN-DC2* which indicate the maxUplinkDutyCycle capability of NR band corresponding to different LTE reference configurations as described in TS 38.101-3 [4], clause 6.2B.1.3. Value n30 corresponds to 30%, value n40 corresponds to 40% and so on.	BC	No	N/A	FR1 only

4.2.7.10 *Phy-Parameters*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
absoluteTPC-Command Indicates whether the UE supports absolute TPC command mode.	UE	No	No	Yes
aggregationFactorSPS-DL-r16 Indicates whether the UE supports configurable PDSCH aggregation factor ({1, 2, 4, 8}) per DL SPS configuration. The UE can include this feature only if the UE indicates support of *downlinkSPS*.	UE	No	No	Yes
almostContiguousCP-OFDM-UL Indicates whether the UE supports almost contiguous UL CP-OFDM transmissions as defined in clause 6.2 of TS 38.101-1 [2].	UE	No	No	Yes
bwp-SwitchingDelay Defines whether the UE supports DCI and timer based active BWP switching delay type1 or type2 specified in clause 8.6.2 of TS 38.133 [5]. It is mandatory to report type 1 or type 2 when *bwp-SameNumerology* or *bwp-DiffNumerology* is supported on at least one band. This capability is not applicable to IAB-MT.	UE	CY	No	No
bwp-SwitchingMultiCCs-r16 Indicates whether the UE supports incremental delay for DCI and timer based active BWP switching on multiple CCs simultaneously 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 *bwp-SwitchingDelay*, *bwp-SameNumerology* and/or *bwp-DiffNumerology*. It is mandatory to report either *type1-r16* or *type2-r16* for a UE which supports CA.	UE	CY	No	No
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
cbg-FlushIndication-DL Indicates whether the UE supports CBG-based (re)transmission for DL using CBG flushing out information (CBGFI) as specified in TS 38.214 [12].	UE	No	No	No
cbg-TransIndication-DL Indicates whether the UE supports CBG-based (re)transmission for DL using CBG transmission information (CBGTI) as specified in TS 38.214 [12].	UE	No	No	No
cbg-TransIndication-UL Indicates whether the UE supports both in-order and out-of-order CBG-based (re)transmission for UL using CBG transmission information (CBGTI) as specified in TS 38.214 [12].	UE	No	No	No
cbg-TransInOrderPUSCH-UL-r16 Indicates whether the UE supports CBG-based re-transmission(s) of a TB using CBG transmission information (CBGTI) as specified in TS 38.214 [12] in the following two cases (both are considered as in-order CBG-based retransmission(s)): 1. if the initial PUSCH transmission was not cancelled due to gNB scheduling/indication/configuration; and 2. if the initial PUSCH transmission was cancelled due to gNB scheduling/indication/configuration and the following condition is satisfied: the UE is scheduled for a re-transmission of a CBG #N in a given TB when CBG #N-1 has been transmitted before or is scheduled in the same UL grant that includes CBG#N.	UE	No	No	No
cli-RSSI-FDM-DL-r16 Indicates whether serving cell DL signal/channel (e.g. PDSCH/PDCCH) and CLI-RSSI FDMed reception is supported as specified in TS 38.215 [13].	UE	No	TDD only	Yes
cli-SRS-RSRP-FDM-DL-r16 Indicates whether serving cell DL signal/channel (e.g. PDSCH/PDCCH) and SRS-RSRP FDMed reception is supported as specified in TS 38.215 [13].	UE	No	TDD only	Yes

codebookVariantsList-r16 Indicates the list of *SupportedCSI-RS-Resource* applicable to the codebook types supported by the UE.	UE	No	No	No
configuredUL-GrantType1 Indicates whether the UE supports Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *configuredUL-GrantType1-r16* applies.	UE	No	No	No
configuredUL-GrantType2 Indicates whether the UE supports Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *configuredUL-GrantType2-r16* applies.	UE	No	No	No
cqi-TableAlt Indicates whether UE supports the CQI table with target BLER of 10^-5.	UE	No	No	Yes
cri-RI-CQI-WithoutNon-PMI-PortInd-r16 Indicates whether UE supports *CSI-ReportConfig* with the higher layer parameter *reportQuantity* set to '*cri-RI-CQ*' and the higher layer parameter *non-PMI-PortIndication* is not configured. UE indicating support of this feature shall also indicate support of *csi-ReportFramework*.	UE	No	No	Yes
crossSlotScheduling-r16 Indicates whether UE supports dynamic indication of applicable minimum scheduling restriction by DCI format 0_1 and 1_1, and the minimum scheduling offset for PDSCH and aperiodic CSI-RS triggering offset (K0), and PUSCH (K2), and the extended value range for aperiodic CSI-RS triggering offset. Support of this feature is reported for licensed and unlicensed bands, respectively. When this field is reported, either of *non-SharedSpectrumChAccess-r16* or *sharedSpectrumChAccess-r16* shall be reported, at least.	UE	No	No	No
csi-ReportFramework See *csi-ReportFramework* in 4.2.7.2. For a band combination comprised of FR1 and FR2 bands, this parameter, if present, limits the corresponding parameter in *MIMO-ParametersPerBand*.	UE	Yes	No	N/A
csi-ReportFrameworkExt-r16 See *csi-ReportFramework* in 4.2.7.2. For a band combination comprised of FR1 and FR2 bands, this parameter, if present, limits the corresponding parameter in *MIMO-ParametersPerBand*.	UE	No	No	N/A
csi-ReportWithoutCQI Indicates whether UE supports CSI reporting with report quantity set to 'CRI/RI/i1' as defined in clause 5.2.1.4 of TS 38.214 [12].	UE	No	No	Yes
csi-ReportWithoutPMI Indicates whether UE supports CSI reporting with report quantity set to 'CRI/RI/CQI' as defined in clause 5.2.1.4 of TS 38.214 [12].	UE	No	No	Yes
csi-RS-CFRA-ForHO Indicates whether the UE can perform reconfiguration with sync using a contention free random access with 4-step RA type on PRACH resources that are associated with CSI-RS resources of the target cell. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-RS-CFRA-ForHO-r16* applies.	UE	No	No	No
csi-RS-IM-ReceptionForFeedback See *csi-RS-IM-ReceptionForFeedback* in 4.2.7.2. For a band combination comprised of FR1 and FR2 bands, this parameter, if present, limits the corresponding parameter in *MIMO-ParametersPerBand*.	UE	Yes	No	N/A
csi-RS-ProcFrameworkForSRS See *csi-RS-ProcFrameworkForSRS* in 4.2.7.2. For a band combination comprised of FR1 and FR2 bands, this parameter, if present, limits the corresponding parameter in *MIMO-ParametersPerBand*.	UE	No	No	N/A
csi-TriggerStateNon-ActiveBWP-r16 Indicates whether the UE supports CSI trigger states containing non-active BWP.	UE	No	No	No
dci-DL-PriorityIndicator-r16 Indicates whether the UE supports the priority indicator field configured in DCI formats 1_1 and 1_2 in a BWP when configured to monitor both DCI formats 1_1 and 1_2 in the BWP.	UE	No	No	No
dci-Format1-2And0-2-r16 Indicates whether the UE supports monitoring DCI format 1_2 for DL scheduling and monitoring DCI format 0_2 for UL scheduling.	UE	No	No	No

dci-UL-PriorityIndicator-r16 Indicates whether the UE supports the priority indicator field configured in DCI formats 0_1 and 0_2 in a BWP when configured to monitor both DCI formats 0_1 and 0_2 in the BWP. A UE supporting this feature shall also support *ul-IntraUE-Mux-r16* and *dci-Format1-2And0-2-r16*.	UE	No	No	No
defaultSpatialRelationPathlossRS-r16 Indicates the UE support of default spatial relation and pathloss reference RS for dedicated PUCCH/SRS and PUSCH. The UE indicating support of this also indicates the capabilities of supported SRS resources and maximum supported spatial relations for the supported FR2 bands using *supportedSRS-Resources* and *maxNumberConfiguredSpatialRelations.*	UE	No	No	FR2 only
dl-64QAM-MCS-TableAlt Indicates whether the UE supports the alternative 64QAM MCS table for PDSCH.	UE	No	No	Yes
dl-SchedulingOffset-PDSCH-TypeA Indicates whether the UE supports DL scheduling slot offset (K0) greater than 0 for PDSCH mapping type A.	UE	Yes	Yes	Yes
dl-SchedulingOffset-PDSCH-TypeB Indicates whether the UE supports DL scheduling slot offset (K0) greater than 0 for PDSCH mapping type B.	UE	Yes	Yes	Yes
downlinkSPS Indicates whether the UE supports PDSCH reception based on semi-persistent scheduling. One SPS configuration is supported per cell group. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *downlinkSPS-r16* applies.	UE	No	No	No
dynamicBetaOffsetInd-HARQ-ACK-CSI Indicates whether the UE supports indicating beta-offset (UCI repetition factor onto PUSCH) for HARQ-ACK and/or CSI via DCI among the RRC configured beta-offsets.	UE	No	No	No
dynamicHARQ-ACK-Codebook Indicates whether the UE supports HARQ-ACK codebook dynamically constructed by DCI(s). This field shall be set to *supported*.	UE	Yes	No	No
dynamicHARQ-ACK-CodeB-CBG-Retx-DL Indicates whether the UE supports HARQ-ACK codebook size for CBG-based (re)transmission based on the DAI-based solution as specified in TS 38.213 [11].	UE	No	No	No
dynamicPRB-BundlingDL Indicates whether UE supports DCI-based indication of the PRG size for PDSCH reception.	UE	No	No	No
dynamicSFI Indicates whether the UE supports monitoring for DCI format 2_0 and determination of slot formats via DCI format 2_0. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *dynamicSFI-r16* applies.	UE	No	Yes	Yes
dynamicSwitchRA-Type0-1-PDSCH Indicates whether the UE supports dynamic switching between resource allocation Types 0 and 1 for PDSCH as specified in TS 38.212 [10].	UE	No	No	No
dynamicSwitchRA-Type0-1-PUSCH Indicates whether the UE supports dynamic switching between resource allocation Types 0 and 1 for PUSCH as specified in TS 38.212 [10].	UE	No	No	No
enhancedPowerControl-r16 For DG-PUSCH, one bit (separately from SRI) in UL grant is used to indicate the P0 value if SRI is present in the UL grant, and 1 or 2 bits is used to indicate the P0 value if SRI is not present in the UL grant.	UE	No	No	Yes
extendedCG-Periodicities-r16 Indicates that the UE supports extended periodicities for CG Type 1 (if the UE indicates *configuredUL-GrantType1* or *configuredUL-GrantType1-v1650* capability) or CG Type 2 (if the UE indicates *configuredUL-GrantType2* or *configuredUL-GrantType2-v1650* capability) as specified by *periodicityExt-r16* field of IE *ConfiguredGrantConfig* in TS 38.331 [9].	UE	No	No	No
extendedSPS-Periodicities-r16 Indicates that the UE supports extended periodicities for downlink SPS as specified by *periodicityExt-r16* field of IE *SPS-Config* in TS 38.331 [9].	UE	No	No	No
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

harqACK-CB-SpatialBundlingPUCCH-Group-r16 Indicates whether the UE supports HARQ-ACK codebook type and HARQ-ACK spatial bundling configuration per PUCCH group as specified in TS 38.213 [11]. If the UE indicates support of this, it also supports two NR PUCCH groups with same numerology by setting *twoPUCCH-Group* to *supported.*	UE	No	No	No
harqACK-separateMultiDCI-MultiTRP-r16 Indicates whether the UE support of separate HARQ-ACK. The capability signalling of this feature includes the following: - *maxNumberLongPUCCHs-r16* indicates maximum number of long PUCCHs within a slot for separate HARQ-Ack The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16.*	UE	No	No	No
harqACK-jointMultiDCI-MultiTRP-r16 Indicates whether the UE support of joint HARQ-ACK. The UE that indicates support of this feature shall support *multiDCI-MultiTRP-r16.*	UE	No	No	No
pucch-F0-2WithoutFH Indicates whether the UE supports transmission of a PUCCH format 0 or 2 without frequency hopping. When included, the UE does not support PUCCH formats 0 and 2 without frequency hopping. When not included, the UE supports the PUCCH formats 0 and 2 without frequency hopping.	UE	Yes	No	Yes
pucch-F1-3-4WithoutFH Indicates whether the UE supports transmission of a PUCCH format 1, 3 or 4 without frequency hopping. When included, the UE does not support PUCCH formats 1, 3 and 4 without frequency hopping. When not included, the UE supports the PUCCH formats 1, 3 and 4 without frequency hopping.	UE	Yes	No	Yes
interleavingVRB-ToPRB-PDSCH Indicates whether the UE supports receiving PDSCH with interleaved VRB-to-PRB mapping as specified in TS 38.211 [6].	UE	Yes	No	No
interSlotFreqHopping-PUSCH Indicates whether the UE supports inter-slot frequency hopping for PUSCH transmissions.	UE	No	No	No
intraSlotFreqHopping-PUSCH Indicates whether the UE supports intra-slot frequency hopping for PUSCH transmission, except for PUSCH scheduled by PDCCH in the Type1-PDCCH common search space before RRC connection establishment.	UE	Yes	No	Yes
maxLayersMIMO-Adaptation-r16 Indicates whether the UE supports the network configuration of *maxMIMO-Layers* per DL BWP. If the UE supports this feature, the UE needs to report *maxLayersMIMO-Indication*.	UE	No	No	Yes
maxLayersMIMO-Indication Indicates whether the UE supports the network configuration of *maxMIMO-Layers* as specified in TS 38.331 [9].	UE	Yes	No	No
maxNumberPathlossRS-update-r16 Indicates the maximum number of configured pathloss reference RSs for PUSCH/PUCCH/SRS by RRC that the UE can support for MAC-CE based pathloss reference RS update.	UE	No	No	No
maxNumberSearchSpaces Indicates whether the UE supports up to 10 search spaces in an SCell per BWP.	UE	No	No	No
maxNumberSRS-PosPathLossEstimateAllServingCells-r16 Indicates the maximum number of pathloss estimates that the UE can simultaneously maintain for all the SRS resource sets for positioning across all cells in addition to the up to four pathloss estimates that the UE maintains per serving cell for the PUSCH/PUCCH/SRS transmissions. The UE shall include this field if the UE supports any of *olpc-SRS-PosBasedOnPRS-Serving-r16, olpc-SRS-PosBasedOnSSB-Neigh-r16* and *olpc-SRS-PosBasedOnPRS-Neigh-r16.* Otherwise, the UE does not include this field;	UE	No	No	No
maxNumberSRS-PosSpatialRelationsAllServingCells-r16 Indicates the maximum number of maintained spatial relations for all the SRS resource sets for positioning across all serving cells in addition to the spatial relations maintained spatial relations per serving cell for the PUSCH/PUCCH/SRS transmissions. It is only applied for FR2. The UE can include this field only if the UE supports any of *spatialRelation-SRS-PosBasedOnSSB-Serving-r16*, *spatialRelation-SRS-PosBasedOnCSI-RS-Serving-r16*, *spatialRelation-SRS-PosBasedOnPRS-Serving-r16*, *spatialRelation-SRS-PosBasedOnSSB-Neigh-r16* or *spatialRelation-SRS-PosBasedOnPRS-Neigh-r16*. Otherwise, the UE does not include this field;	UE	No	No	FR2 only

maxTotalResourcesForAcrossFreqRanges-r16 Indicates the maximum total number of SSB/CSI-RS/CSI-IM resources for beam management, pathloss measurement, BFD, RLM and new beam identification across frequency ranges (both FR1 and FR2) that the UE supports. The capability signalling includes the following: - *maxNumberResWithinSlotAcrossCC-AcrossFR-r16* indicates maximum total number of SSB/CSI-RS/CSI-IM resources configured to measure within a slot across all CCs across all frequency ranges for any of L1-RSRP measurement, L1-SINR measurement, pathloss measurement, BFD, RLM and new beam identification. - *maxNumberResAcrossCC-AcrossFR-r16* indicates maximum total number of SSB/CSI-RS/CSI-IM resources configured across all CCs across all frequency ranges for any of L1-RSRP measurement, L1-SINR measurement, pathloss measurement, BFD, RLM and new beam identification. gNB takes into conjunction of this feature and the features *maxTotalResourcesForOneFreqRange-r16**,** beamManagementSSB-CSI-RS, maxNumberCSI-RS-BFD, maxNumberSSB-BFD* and *maxNumberCSI-RS-SSB-CBD* when configuring SSB/CSI-RS/CSI-IM resources for beam management, pathloss measurement, BFD, RLM and new beam identification across frequency ranges. The signalled values apply to the shortest slot duration defined in any FR(s) that are supported by the UE. NOTE 1: The "configured to measure" RS is counted within the duration of a reference slot in which the corresponding reference signals are transmitted. NOTE 2: Regarding the "configured to measure" RS counting - (basic usage 1): If one resource is used for one or multiple of BFD/RLM, it is counted as one. - (basic usage 2): If one resource is used for one or multiple of New Beam Identification/PL-RS/L1-RSRP, add 1. - L1-RSRP measurement includes cases associated with reports with *reportQuantity* set to '*ssb-Index-RSRP*', '*cri-RSRP*' or with *reportQuantity* set to '*none*' and *CSI-RS-ResourceSet* with higher layer parameter *trs-Info* is not configured. - If one resource is used for L1-SINR in addition to basic usage 1 & 2, add N if referred N times by one or more CSI Reporting settings with *reportQuantity-r16* = '*ssb-Index-SINR-r16*' or '*cri-SINR-r16*'.	UE	No	No	No

maxTotalResourcesForOneFreqRange-r16 Indicates the maximum total number of SSB/CSI-RS/CSI-IM resources for beam management, pathloss measurement, BFD, RLM and new beam identification for one frequency range that the UE supports. The capability signalling includes the following: - *maxNumberResWithinSlotAcrossCC-OneFR-r16* indicates maximum total number of SSB/CSI-RS/CSI-IM resources configured to measure within a slot across all CCs in one frequency range for any of L1-RSRP measurement, L1-SINR measurement, pathloss measurement, BFD, RLM and new beam identification - *maxNumberResAcrossCC-OneFR-r16* indicates maximum total number of SSB/CSI-RS/CSI-IM resources configured across all CCs in one frequency range for any of L1-RSRP measurement, L1-SINR measurement, pathloss measurement, BFD, RLM and new beam identification. gNB takes into conjunction of this feature and the features *beamManagementSSB-CSI-RS, maxNumberCSI-RS-BFD, maxNumberSSB-BFD* and *maxNumberCSI-RS-SSB-CBD* when configuring SSB/CSI-RS/CSI-IM resources for beam management, pathloss measurement, BFD, RLM and new beam identification across one frequency range. NOTE 1: The reference slot duration is the shortest slot duration defined for the reported FR supported by the UE. NOTE 2: For RS configured for new beam identification, they are always counted regardless of beam failure event. NOTE 3: The *maxNumberResWithinSlotAcrossCC-AcrossFR-r16* only counts those in active BWP but the *maxNumberResAcrossCC-AcrossFR-r16* counts all configured including both active and inactive BWP. NOTE 4: The "configured to measure" RS is counted within the duration of a reference slot in which the corresponding reference signals are transmitted. NOTE 5: Regarding the "configured to measure" RS counting - (basic usage 1): If one resource is used for one or multiple of BFD/RLM, it is counted as one. - (basic usage 2): If one resource is used for one or multiple of New Beam Identification/PL-RS/L1-RSRP, add 1. - L1-RSRP measurement includes cases associated with reports with *reportQuantity* set to '*ssb-Index-RSRP*', '*cri-RSRP*' or with *reportQuantity* set to '*none*' and *CSI-RS-ResourceSet* with higher layer parameter *trs-Info* is not configured. - If one resource is used for L1-SINR in addition to basic usage 1 & 2, add N if referred N times by one or more CSI Reporting settings with *reportQuantity-r16* = '*ssb-Index-SINR-r16*' or '*cri-SINR-r16*'.	UE	No	No	Yes
monitoringDCI-SameSearchSpace-r16 Indicates whether the UE supports monitoring both DCI format 0_1/1_1 and DCI format 0_2/1_2 in the same search space. If the UE supports this feature, the UE needs to report *dci-Format1-2And0-2-r16*.	UE	No	No	No
multipleCORESET Indicates whether the UE supports configuration of up to two PDCCH CORESETs per BWP in addition to the CORESET with CORESET-ID 0 in the BWP. If this is not supported, the UE supports one PDCCH CORESET per BWP in addition to the CORESET with CORESET-ID 0 in the BWP. It is mandatory with capability signalling for FR2 and optional for FR1.	UE	CY	No	Yes
mux-HARQ-ACK-PUSCH-DiffSymbol Indicates whether the UE supports HARQ-ACK piggyback on a PUSCH with/without aperiodic CSI once per slot when the starting OFDM symbol of the PUSCH is different from the starting OFDM symbols of the PUCCH resource that HARQ-ACK would have been transmitted on. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *mux-HARQ-ACK-PUSCH-DiffSymbol-r16* applies.	UE	Yes	No	Yes
mux-HARQ-ACK-withoutPUCCH-onPUSCH-r16 Indicates that the UE is implemented according to the definition in TS 38.213 [11] for multiplexing HARQ-ACK in a PUSCH in a PUCCH slot when the UE has no HARQ-ACK for any DL activity to transmit, but it receives UL grant(s) with UL-TDAI field indicating HARQ-ACK multiplexing on a PUSCH, and it transmits multiple PUSCHs in the PUCCH slot.	UE	No	No	No

mux-MultipleGroupCtrlCH-Overlap Indicates whether the UE supports more than one group of overlapping PUCCHs and PUSCHs per slot per PUCCH cell group for control multiplexing.	UE	No	No	Yes
mux-SR-HARQ-ACK-CSI-PUCCH-MultiPerSlot Indicates whether the UE supports multiplexing SR, HARQ-ACK and CSI on a PUCCH or piggybacking on a PUSCH more than once per slot when SR, HARQ-ACK and CSI are supposed to be sent with the same or different starting symbol in a slot. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *mux-SR-HARQ-ACK-CSI-PUCCH-MultiPerSlot-r16* applies.	UE	No	No	Yes
mux-SR-HARQ-ACK-CSI-PUCCH-OncePerSlot *sameSymbol* indicates the UE supports multiplexing SR, HARQ-ACK and CSI on a PUCCH or piggybacking on a PUSCH once per slot, when SR, HARQ-ACK and CSI are supposed to be sent with the same starting symbols on the PUCCH resources in a slot. *diffSymbol* indicates the UE supports multiplexing SR, HARQ-ACK and CSI on a PUCCH or piggybacking on a PUSCH once per slot, when SR, HARQ-ACK and CSI are supposed to be sent with the different starting symbols in a slot. The UE is mandated to support the multiplexing and piggybacking features indicated by *sameSymbol* while the UE is optional to support the multiplexing and piggybacking features indicated by *diffSymbol*. If the UE indicates *sameSymbol* in this field and does not support *mux-HARQ-ACK-PUSCH-DiffSymbol*, the UE supports HARQ-ACK/CSI piggyback on PUSCH once per slot, when the starting OFDM symbol of the PUSCH is the same as the starting OFDM symbols of the PUCCH resource(s) that would have been transmitted on. If the UE indicates *sameSymbol* in this field and supports *mux-HARQ-ACK-PUSCH-DiffSymbol*, the UE supports HARQ-ACK/CSI piggyback on PUSCH once per slot for which case the starting OFDM symbol of the PUSCH is the different from the starting OFDM symbols of the PUCCH resource(s) that would have been transmitted on. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *mux-SR-HARQ-ACK-CSI-PUCCH-OncePerSlot-r16* applies.	UE	FD	No	Yes
mux-SR-HARQ-ACK-PUCCH Indicates whether the UE supports multiplexing SR and HARQ-ACK on a PUCCH or piggybacking on a PUSCH once per slot, when SR and HARQ-ACK are supposed to be sent with the different starting symbols in a slot. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *mux-SR-HARQ-ACK-PUCCH-r16* applies.	UE	No	No	Yes
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
nzp-CSI-RS-IntefMgmt Indicates whether the UE supports interference measurements using NZP CSI-RS.	UE	No	No	No
oneFL-DMRS-ThreeAdditionalDMRS-UL Defines whether the UE supports DM-RS pattern for UL transmission with 1 symbol front-loaded DM-RS with three additional DM-RS symbols.	UE	No	No	Yes
oneFL-DMRS-TwoAdditionalDMRS-UL Defines support of DM-RS pattern for UL transmission with 1 symbol front-loaded DM-RS with 2 additional DM-RS symbols and more than 1 antenna ports.	UE	Yes	No	Yes
onePortsPTRS Defines whether UE supports PT-RS with 1 antenna port in DL reception and/or UL transmission. It is mandatory with UE capability signalling for FR2 and optional for FR1. The left most in the bitmap corresponds to DL reception and the right most bit in the bitmap corresponds to UL transmission.	UE	CY	No	Yes
onePUCCH-LongAndShortFormat Indicates whether the UE supports transmission of one long PUCCH format and one short PUCCH format in TDM in the same slot.	UE	No	No	Yes
pathlossEstimation2PortCSI-RS-r16 Indicates whether the UE supports 2 port CSI-RS for pathloss estimation with the same resource counting as in *maxTotalResourcesForOneFreqRange-r16* and *maxTotalResourcesForAcrossFreqRanges-r16*.	UE	No	No	No
pCell-FR2 Indicates whether the UE supports PCell operation on FR2.	UE	Yes	No	FR2 only
pdcch-MonitoringSingleOccasion Indicates whether the UE supports receiving PDCCH in a search space configured to be monitored within a single span of any three contiguous OFDM symbols in a slot with the capability of supporting at least 44 blind decodes in a slot for 15 kHz subcarrier spacing.	UE	No	No	FR1 only

pdcch-BlindDetectionCA Indicates PDCCH blind decoding capabilities supported by the UE for CA with more than 4 CCs as specified in TS 38.213 [11]. The field value is from 4 to 16. NOTE: FR1-FR2 differentiation is not allowed in this release, although the capability signalling is supported for FR1-FR2 differentiation.	UE	No	No	No
pdcch-BlindDetectionMCG-UE Indicates PDCCH blind decoding capabilities supported for MCG when in NR DC. The field value is from 1 to 15. The UE sets the value in accordance with the constraints specified in TS 38.213 [11]. Additionally, if the UE does not report *pdcch-BlindDetectionCA*, and if X is the maximum number of CCs supported by the UE across all NR-DC band combinations then there is at least one parameter pair (X1, X2) such that X1 + X2 = X and the UE supports at least one NR-DC band combination with X1 CCs in MCG and X2 CCs in SCG and for which X1 <= *pdcch-BlindDetectionMCG-UE* and X2 <= *pdcch-BlindDetectionSCG-UE*.	UE	No	No	Yes
pdcch-BlindDetectionSCG-UE Indicates PDCCH blind decoding capabilities supported for SCG when in NR DC. The field value is from 1 to 15. The UE sets the value in accordance with the constraints specified in TS 38.213 [11]. Additionally, if the UE does not report *pdcch-BlindDetectionCA*, and if X is the maximum number of CCs supported by the UE across all NR-DC band combinations then there is at least one parameter pair (X1, X2) such that X1 + X2 = X and the UE supports at least one NR-DC band combination with X1 CCs in MCG and X2 CCs in SCG and for which X1 <= *pdcch-BlindDetectionMCG-UE* and X2 <= *pdcch-BlindDetectionSCG-UE*.	UE	No	No	Yes
pdcch-MonitoringAnyOccasionsWithSpanGapCrossCarrierSch-r16 Indicates how the UE supports *pdcch-MonitoringAnyOccasionsWithSpanGap* in case of cross-carrier scheduling with different SCSs in the scheduling cell and the scheduled cell. Value 'mode2' indicates *pdcch-MonitoringAnyOccasionsWithSpanGap* is supported for the band of the scheduling/triggering/indicating cell. Value 'mode3' indicates *pdcch-MonitoringAnyOccasionsWithSpanGap* is supported in both the band of the scheduled/triggered/indicated cell and the band of the scheduling/triggering/indicating cell. UE indicating support of these feature indicates support of *pdcch-MonitoringAnyOccasionsWithSpanGap* and *crossCarrierSchedulingDL-DiffSCS-r16*. NOTE: For *pdcch-MonitoringAnyOccasionsWithSpanGap*, the supported set (set1, set2 or set 3) for cross-carrier scheduling with the different SCSs in the scheduling cell and the scheduled cell is still based on the indicated value for the band of the scheduling cell.	UE	No	No	No
pdcch-MonitoringSingleSpanFirst4Sym-r16 Indicates whether the UE supports receiving PDCCH in a search space configured to be monitored within a single span of any three contiguous OFDM symbols that are within the first four OFDM symbols in a slot with the capability of supporting at least 44 blind decodes in a slot for 15 kHz subcarrier spacing.	UE	No	No	FR1 only
pdsch-256QAM-FR1 Indicates whether the UE supports 256QAM modulation scheme for PDSCH for FR1 as defined in 7.3.1.2 of TS 38.211 [6].	UE	Yes	No	FR1 only
pdsch-MappingTypeA Indicates whether the UE supports receiving PDSCH using PDSCH mapping type A with less than seven symbols. This field shall be set to *supported*.	UE	Yes	No	No
pdsch-MappingTypeB Indicates whether the UE supports receiving PDSCH using PDSCH mapping type B.	UE	Yes	No	No
pdsch-RepetitionMultiSlots Indicates whether the UE supports receiving PDSCH scheduled by DCI format 1_1 when configured with higher layer parameter *pdsch-AggregationFactor* > 1, as defined in 5.1.2.1 of TS 38.214 [12]. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *pdsch-RepetitionMultiSlots-r16* applies.	UE	No	No	No

pdsch-RE-MappingFR1-PerSymbol/pdsch-RE-MappingFR1-PerSlot Indicates the maximum number of supported PDSCH Resource Element (RE) mapping patterns for FR1, each described as a resource (including NZP/ZP CSI-RS, CRS, CORESET and SSB) or bitmap. The number of patterns coinciding in a symbol in a CC and in a slot in a CC are limited by the respective capability parameters. Value n10 means 10 RE mapping patterns and n16 means 16 RE mapping patterns, and so on. The UE shall set the fields *pdsch-RE-MappingFR1-PerSymbol* and *pdsch-RE-MappingFR1-PerSlo*t to at least n10 and n16, respectively. In the exceptional case that the UE does not include the fields, the network may anyway assume that the UE supports the required minimum values.	UE	Yes	No	FR1 only
pdsch-RE-MappingFR2-PerSymbol/pdsch-RE-MappingFR2-PerSlot Indicates the maximum number of supported PDSCH Resource Element (RE) mapping patterns for FR2, each described as a resource (including NZP/ZP CSI-RS, CORESET and SSB) or bitmap. The number of patterns coinciding in a symbol in a CC and in a slot in a CC are limited by the respective capability parameters. Value n6 means 6 RE mapping patterns and n16 means 16 RE mapping patterns, and so on. The UE shall set the fields *pdsch-RE-MappingFR2-PerSymbol* and *pdsch-RE-MappingFR2-PerSlo*t to at least n6 and n16, respectively. In the exceptional case that the UE does not include the fields, the network may anyway assume that the UE supports the required minimum values.	UE	Yes	No	FR2 only
precoderGranularityCORESET Indicates whether the UE supports receiving PDCCH in CORESETs configured with CORESET-precoder-granularity equal to the size of the CORESET in the frequency domain as specified in TS 38.211 [6].	UE	No	No	No
pre-EmptIndication-DL Indicates whether the UE supports interrupted transmission indication for PDSCH reception based on reception of DCI format 2_1 as defined in TS 38.213 [11]. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *pre-EmptIndication-DL-r16* applies.	UE	No	No	No
pucch-F2-WithFH Indicates whether the UE supports transmission of a PUCCH format 2 (2 OFDM symbols in total) with frequency hopping in a slot. This field shall be set to *supported*.	UE	Yes	No	Yes
pucch-F3-WithFH Indicates whether the UE supports transmission of a PUCCH format 3 (4~14 OFDM symbols in total) with frequency hopping in a slot. This field shall be set to *supported*.	UE	Yes	No	Yes
pucch-F3-4-HalfPi-BPSK Indicates whether the UE supports pi/2-BPSK for PUCCH format 3/4 as defined in 6.3.2.6 of TS 38.211 [6]. It is optional for FR1 and mandatory with capability signalling for FR2. This capability is not applicable to IAB-MT.	UE	CY	No	Yes
pucch-F4-WithFH Indicates whether the UE supports transmission of a PUCCH format 4 (4~14 OFDM symbols in total) with frequency hopping in a slot.	UE	Yes	No	Yes
pusch-RepetitionMultiSlots Indicates whether the UE supports transmitting PUSCH scheduled by DCI format 0_1 when configured with higher layer parameter *pusch-AggregationFactor* > 1, as defined in clause 6.1.2.1 of TS 38.214 [12]. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *pusch-RepetitionMultiSlots-r16* applies.	UE	Yes	No	No
pucch-Repetition-F1-3-4 Indicates whether the UE supports transmission of a PUCCH format 1 or 3 or 4 over multiple slots with the repetition factor 2, 4 or 8. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *pucch-Repetition-F1-3-4-r16* applies.	UE	Yes	No	No
pusch-HalfPi-BPSK Indicates whether the UE supports pi/2-BPSK modulation scheme for PUSCH as defined in 6.3.1.2 of TS 38.211 [6]. It is optional for FR1 and mandatory with capability signalling for FR2. This capability is not applicable to IAB-MT.	UE	CY	No	Yes
pusch-LBRM Indicates whether the UE supports limited buffer rate matching in UL as specified in TS 38.212 [10].	UE	No	No	Yes

pusch-RepetitionTypeA-r16 Indicates whether the UE supports the dynamic indication of the number of repetitions for PUSCH transmission as specified in TS 38.214 [12], clause 6.1.2.1. Support of this field is reported for shared spectrum channel access and non-shared spectrum channel access, respectively. UE indicating support of this feature shall support at least one of *type2-PUSCH-RepetitionMultiSlots* and *pusch-RepetitionMultiSlots* for shared spectrum and non-shared spectrum respectively.	UE	No	No	No
ra-Type0-PUSCH Indicates whether the UE supports resource allocation Type 0 for PUSCH as specified in TS 38.214 [12].	UE	No	No	No
rateMatchingCtrlResrcSetDynamic Indicates whether the UE supports dynamic rate matching for DL control resource set.	UE	Yes	No	No
rateMatchingResrcSetDynamic Indicates whether the UE supports receiving PDSCH with resource mapping that excludes the REs corresponding to resource sets configured with RB-symbol level granularity indicated by *bitmaps* (see *patternType* in *RateMatchPattern* in TS 38.331[9]) based on dynamic indication in the scheduling DCI as specified in TS 38.214 [12].	UE	No	No	No
rateMatchingResrcSetSemi-Static Indicates whether the UE supports receiving PDSCH with resource mapping that excludes the REs corresponding to resource sets configured with RB-symbol level granularity indicated by *bitmaps* and *controlResourceSet* (see *patternType* in *RateMatchPattern* in TS 38.331[9]) following the semi-static configuration as specified in TS 38.214 [12].	UE	Yes	No	No
scs-60kHz Indicates whether the UE supports 60kHz subcarrier spacing for data channel in FR1 as defined in clause 4.2-1 of TS 38.211 [6].	UE	No	No	FR1 only
semiOpenLoopCSI Indicates whether UE supports CSI reporting with report quantity set to 'CRI/RI/i1/CQI ' as defined in clause 5.2.1.4 of TS 38.214 [12].	UE	No	No	Yes
semiStaticHARQ-ACK-Codebook Indicates whether the UE supports HARQ-ACK codebook constructed by semi-static configuration.	UE	Yes	No	No
simultaneousTCI-ActMultipleCC-r16 Indicates the UE support of simultaneous TCI state activation across multiple CCs. If the UE indicates support of this for a FR, the UE shall support this on the supported bands of the indicated FR where the UE reports the support of TCI-states for PDSCH using *tci-StatePDSCH.*	UE	No	No	Yes
simultaneousSpatialRelationMultipleCC-r16 Indicates the UE support of simultaneous spatial relation across multiple CCs for aperiodic and semi-persistent SRS. The UE indicating support of this also indicates the capabilities of maximum and active supported spatial relations for the supported FR2 bands using *maxNumberConfiguredSpatialRelations* and *maxNumberActiveSpatialRelations.*	UE	No	No	FR2 only
spatialBundlingHARQ-ACK Indicates whether the UE supports spatial bundling of HARQ-ACK bits carried on PUCCH or PUSCH per PUCCH group. With spatial bundling, two HARQ-ACK bits for a DL MIMO data is bundled into a single bit by logical "AND" operation.	UE	Yes	No	No
spatialRelationUpdateAP-SRS-r16 Indicates the UE support of spatial relation update for AP-SRS using MAC CE. The UE indicating support of this also indicates the capabilities of supported SRS resources and maximum supported spatial relations for the supported FR2 bands using *supportedSRS-Resources* and *maxNumberConfiguredSpatialRelations.*	UE	No	No	FR2 only
spCellPlacement Indicates whether the UE supports a SpCell on FR1-FDD, FR1-TDD and/or FR2-TDD depending on which additional SCells of other frequency range(s) / duplex mode(s) are configured. It is applicable to NR SA and NR-DC (both MCG and SCG), where UL is configured on more than one of FR1-FDD, FR1-TDD and FR2-TDD in a cell group. If not included, the UE supports SpCell on any serving cell with UL in supported band combinations.	UE	No	No	No
sp-CSI-IM Indicates whether the UE supports semi-persistent CSI-IM.	UE	No	No	Yes
sp-CSI-ReportPUCCH Indicates whether UE supports semi-persistent CSI reporting using PUCCH formats 2, 3 and 4. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *sp-CSI-ReportPUCCH-r16* applies.	UE	No	No	No

sp-CSI-ReportPUSCH Indicates whether UE supports semi-persistent CSI reporting using PUSCH. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *sp-CSI-ReportPUSCH-r16* applies.	UE	No	No	No
sp-CSI-RS Indicates whether the UE supports semi-persistent CSI-RS.	UE	Yes	No	Yes
sps-ReleaseDCI-1-1-r16 Indicates whether the UE supports SPS release by DCI format 1_1. If the UE supports this feature, the UE needs to report *downlinkSPS*.	UE	No	No	No
sps-ReleaseDCI-1-2-r16 Indicates whether the UE supports SPS release by DCI format 1_2. If the UE supports this feature, the UE needs to report *downlinkSPS* and *dci-Format1-2And0-2-r16*.	UE	No	No	No
srs-PeriodicityAndOffsetExt-r16 Indicates whether the UE supports the periodicity of semi-persistent and periodic SRS with 128, 256, 512, and 20480 slots.	UE	No	No	No
supportedDMRS-TypeDL Defines supported DM-RS configuration types at the UE for DL reception. Type 1 is mandatory with capability signalling. Type 2 is optional. If this field is not included, Type 1 is supported.	UE	FD	No	Yes
supportedDMRS-TypeUL Defines supported DM-RS configuration types at the UE for UL transmission. Support of both type 1 and type 2 is mandatory with capability signalling. If this field is not included, Type 1 is supported.	UE	FD	No	Yes
supportRepetitionZeroOffsetRV-r16 Indicates whether UE supports the value 0 for the parameter *sequenceOffsetforRV*. The UE indicating support of this capability shall also indicate support of *supportInter-slotTDM-r16* with *maxNumberTCI-states-r16* set to 2 for at least one band.	UE	No	No	No
supportRetx-Diff-CoresetPool-Multi-DCI-TRP-r16 Indicates that retransmission scheduled by a different *CORESETPoolIndex* for multi-DCI multi-TRP is not supported. For multi-DCI multi-TRP operation, if this feature is reported, UE does not support retransmission scheduled by PDCCH received in a different *CORESETPoolIndex* compared to the *CORESETPoolIndex* of the initial transmission, i.e., the UE is not expected to receive, for the same HARQ process ID, DCI from a different *CORESETPoolIndex* that schedules the retransmission, i.e., NDI not flipped. This applies to both PDSCH and PUSCH retransmissions. UE indicating support of this feature shall indicate support of *multiDCI-MultiTRP-r16.*	UE	No	No	No
targetSMTC-SCG-r16 Indicates the support of configuration of SMTC of target SCG cell with field *targetCellSMTC-SCG*.	UE	No	No	No
tdd-MultiDL-UL-SwitchPerSlot Indicates whether the UE supports more than one switch points in a slot for actual DL/UL transmission(s).	UE	No	TDD only	Yes
tdd-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 TDD PCell. UE indicating support can configure LTE TDD PCell with this feature on the band combination which indicates support of *tdm-restrictionTDD-endc-r16*.	UE	No	TDD only	FR1 only
tpc-PUCCH-RNTI Indicates whether the UE supports group DCI message based on TPC-PUCCH-RNTI for TPC commands for PUCCH.	UE	No	No	Yes
tpc-PUSCH-RNTI Indicates whether the UE supports group DCI message based on TPC-PUSCH-RNTI for TPC commands for PUSCH.	UE	No	No	Yes
tpc-SRS-RNTI Indicates whether the UE supports group DCI message based on TPC-SRS-RNTI for TPC commands for SRS.	UE	No	No	Yes
twoDifferentTPC-Loop-PUCCH Indicates whether the UE supports two different TPC loops for PUCCH closed loop power control.	UE	Yes	Yes	Yes

twoDifferentTPC-Loop-PUSCH Indicates whether the UE supports two different TPC loops for PUSCH closed loop power control.	UE	Yes	Yes	Yes
twoFL-DMRS Defines whether the UE supports DM-RS pattern for DL reception and/or UL transmission with 2 symbols front-loaded DM-RS without additional DM-RS symbols. The left most in the bitmap corresponds to DL reception and the right most bit in the bitmap corresponds to UL transmission.	UE	Yes	No	Yes
twoFL-DMRS-TwoAdditionalDMRS-UL Defines whether the UE supports DM-RS pattern for UL transmission with 2 symbols front-loaded DM-RS with one additional 2 symbols DM-RS.	UE	Yes	No	Yes
twoPUCCH-AnyOthersInSlot Indicates whether the UE supports transmission of two PUCCH formats in TDM in the same slot, which are not covered by *twoPUCCH-F0-2-ConsecSymbols* and *onePUCCH-LongAndShortFormat*.	UE	No	No	Yes
twoPUCCH-F0-2-ConsecSymbols Indicates whether the UE supports transmission of two PUCCHs of format 0 or 2 in consecutive symbols in a slot.	UE	No	Yes	Yes
twoStepRACH-r16 Indicates whether the UE supports the following basic structure and procedure of 2-step RACH: - Fallback procedures from 2-step RA type to 4-step RA type; - MSGA PRACH resource and format determination; - MSGA PUSCH configuration; - Validation and transmission of MSGA PRACH and PUSCH; - Mapping between preamble of MSGA PRACH and PUSCH occasion with DMRS resource of MSGA PUSCH; - MSGB monitoring and decoding; - PUCCH transmission for HARQ-ACK feedback to a MSGB; - Power control for MSGA PRACH, MSGA PUSCH and PUCCH carrying HARQ-ACK feedback to MSGB. - Reconfiguration with sync using a contention free random access with 2-step RA type on MSGA PRACH and PUSCH resources that are associated with SSB resources of the target cell.	UE	No	No	No
twoTCI-Act-servingCellInCC-List-r16 Indicates whether the UE supports receiving the Enhanced TCI States Activation/Deactivation for UE-specific PDSCH MAC CE (as specified in TS 38.321 [8] clause 6.1.3.24) indicating a serving cell configured as part of *simultaneousTCI-UpdateList1* or *simultaneousTCI-UpdateList2* as specified in TS 38.331 [9]. If the UE indicates support of *simultaneousTCI-ActMultipleCC-r16* for a FR and support of at least one of *singleDCI-SDM-scheme-r16*, *supportFDM-SchemeA-r16*, *supportFDM-SchemeB-r16*, *supportTDM-SchemeA-r16* or *supportInter-slotTDM-r16* for at least one band or component carrier of this FR, the UE shall indicate support of *twoTCI-Act-servingCellInCC-List-r16* for this FR.	UE	CY	No	Yes
type1-HARQ-ACK-Codebook-r16 Indicates whether the UE supports Type 1 HARQ-ACK codebook for TDRA using the starting symbol of the PDCCH monitoring occasion in which the DL assignment is detected as the reference of the SLIV. If the UE supports this feature, the UE needs to report *dci-Format1-2And0-2-r16*. Support for FR1/FR2 is differentiated from the viewpoint of the scheduled carrier.	UE	No	No	Yes
type1-PUSCH-RepetitionMultiSlots Indicates whether the UE supports Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value equal to 2, 4, or 8 with a single repetition of the transport block within each slot, and redundancy version pattern as indicated by UL-TWG-RV-rep. A UE supporting this feature shall also support Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *type1-PUSCH-RepetitionMultiSlots-r16* applies.	UE	No	No	No

type2-CG-ReleaseDCI-0-1-r16 Indicates whether the UE supports type 2 configured grant release by DCI format 0_1. If the UE supports this feature, the UE needs to report *configuredUL-GrantType2* or *configuredUL-GrantType2-v1650*.	UE	No	No	No
type2-CG-ReleaseDCI-0-2-r16 Indicates whether the UE supports type 2 configured grant release by DCI format 0_2. If the UE supports this feature, the UE needs to report *configuredUL-GrantType2* or *configuredUL-GrantType2-v1650* and *dci-Format1-2And0-2-r16*.	UE	No	No	No
type2-HARQ-ACK-Codebook-r16 Indicates whether the UE supports Type 2 HARQ-ACK codebook when HARQ-ACK feedback in a codebook corresponds to more than one unicast DL DCI for same scheduled cell in a monitoring occasion of a scheduling cell using the PDSCH starting time in addition to the existing monitoring occasion and Cell index to order the HARQ-ACK feedback.	UE	No	No	No
type2-PUSCH-RepetitionMultiSlots Indicates whether the UE supports Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value equal to 2, 4, or 8 with a single repetition of the transport block within each slot, and redundancy version pattern as indicated by UL-TWG-RV-rep. A UE supporting this feature shall also support Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *type2-PUSCH-RepetitionMultiSlots-r16* applies.	UE	No	No	No
type2-SP-CSI-Feedback-LongPUCCH Indicates whether UE supports Type II CSI semi-persistent CSI reporting over PUCCH Formats 3 and 4 as defined in clause 5.2.4 of TS 38.214 [12].	UE	No	No	No
uci-CodeBlockSegmentation Indicates whether the UE supports segmenting UCI into multiple code blocks depending on the payload size.	UE	Yes	No	Yes
ul-64QAM-MCS-TableAlt Indicates whether the UE supports the alternative 64QAM MCS table for PUSCH with and without transform precoding respectively.	UE	No	No	Yes
ul-SchedulingOffset Indicates whether the UE supports UL scheduling slot offset (K2) greater than 12.	UE	Yes	Yes	Yes

4.2.7.11 Other PHY parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
appliedFreqBandListFilter Mirrors the *FreqBandList* that the NW provided in the capability enquiry, if any. The UE filtered the band combinations in the *supportedBandCombinationList* in accordance with this *appliedFreqBandListFilter*.	UE	No	No	No
downlinkSetEUTRA Indicates the features that the UE supports on the DL carriers corresponding to one EUTRA band entry in a band combination by FeatureSetEUTRA-DownlinkId. The FeatureSetEUTRA-DownlinkId = 0 means that the UE does not support a EUTRA DL carrier in this band of a band combination.	Band	N/A	N/A	N/A
downlinkSetNR Indicates the features that the UE supports on the DL carriers corresponding to one NR band entry in a band combination by FeatureSetDownlinkId. The FeatureSetDownlinkId = 0 means that the UE does not support a DL carrier in this band of a band combination. A fallback per band feature set resulting from the reported DL feature set that has fallback per CC feature set is not signalled but the UE shall support it.	Band	N/A	N/A	N/A
extendedBand-n77-r16 This field is only applicable for UEs that indicate support for band n77. If present, the UE supports the restriction to 3450 - 3550 MHz and 3700 - 3980 MHz ranges of band n77 in the USA as specified in Note 12 of Table 5.2-1 in TS 38.101-1 [2]. If absent, the UE supports only restriction to the 3700 - 3980 MHz range of band n77 in the USA. A UE that indicates this field shall also support NS value 55 as specified in TS 38.101-1 [2]. A UE supporting NS value 55 shall indicate this field.	UE	No	No	No
featureSetCombinations Pools of feature sets that the UE supports on the NR or MR-DC band combinations.	UE	N/A	No	No
featureSets Pools of downlink and uplink features sets as well as a pool of FeatureSetCombination elements. 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.	UE	N/A	No	No
naics-Capability-List Indicates that UE in MR-DC supports NAICS as defined in TS 36.331 [17].	UE	No	No	No
receivedFilters Contains all filters requested with UE-CapabilityRequestFilterNR from version 15.6.0 onwards.	UE	No	No	No
supportedBandCombinationList Defines the supported NR and/or MR-DC band combinations by the UE. For each band combination the UE identifies the associated feature set combination by featureSetCombinations index referring to featureSetCombination. A fallback band combination resulting from the reported CA and MR-DC band combination is not signalled but the UE shall support it. For intra-band non-contiguous CA band combinations, the UE only includes one band combination, and exclude the others for which the presence of uplink CA bandwidth class in the band combination entry is different. One band combination entry can also indicate support of any other possible permutations in the presence of uplink CA bandwidth class where a paired downlink CA bandwidth class is the same or where the number of UL CCs is smaller than the one of paired DL CCs expressed by the CA bandwidth class, as specified in TS 36.306 [15]. For these band combinations not included in the capability, the supported feature set is the same as the ones for the band combination included in the UE capability.	UE	Yes	No	No
supportedBandCombinationListNEDC-Only Defines the supported NE-DC only type of band combinations by the UE.	UE	No	No	No
supportedBandCombinationList-UplinkTxSwitch-r16 Defines the NR inter-band UL CA, SUL and/or EN-DC band combinations where UE supports dynamic UL Tx switching. UE only includes this field if requested by the network. All fallback band combinations resulting from the reported band combination, which include at least one band pair supporting dynamic UL Tx switching as indicated in *ULTxSwitchingBandPair*, shall be supported by the UE.	UE	No	No	No
supportedBandListNR Includes the supported NR bands as defined in TS 38.101-1 [2] and TS 38.101-2 [3].	UE	Yes	No	No

uplinkSetEUTRA Indicates the features that the UE supports on the UL carriers corresponding to one EUTRA band entry in a band combination by FeatureSetEUTRA-UplinkId. The FeatureSetUplinkId = 0 means that the UE does not support a UL carrier in this band of a band combination.	Band	N/A	N/A	N/A
uplinkSetNR Indicates the features that the UE supports on the UL carriers corresponding to one NR band entry in a band combination by FeatureSetUplinkId. The FeatureSetUplinkId = 0 means that the UE does not support a UL carrier in this band of a band combination. A fallback per band feature set resulting from the reported UL feature set that has fallback per CC feature set is not signalled but the UE shall support it.	Band	N/A	N/A	N/A

4.2.7.12 *NRDC-Parameters*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
asyncNRDC-r16 Indicates whether the UE supports asynchronous NR-DC with MRTD and MTTD as specified in clause 7.5 and 7.6 of TS 38.133 [5]. If the band combination is comprised of a single band entry for more than two carriers, the UE shall support any permutations of carriers to CGs. If the band combination is comprised of at least two band entries, the carriers corresponding to a band entry shall belong to only one cell group. A UE indicating this capability shall support asynchronous NR-DC configuration where all serving cells of the MCG are in FR1 and all serving cells of the SCG are in FR2.	BC	FFS	No	No
intraFR-NR-DC-PwrSharingMode1-r16 Indicates whether the UE supports intra-FR NR DC with semi-static power sharing mode1 between MCG and SCG cells of same frequency range as defined in TS 38.213 [11]. If this field is absent, the UE does not support intra-FR NR DC. In case MCG and SCG have cells in different frequency ranges, this field indicates the support of power sharing only between MCG and SCG cells with UL in FR1.	BC	No	No	FR1 only
intraFR-NR-DC-PwrSharingMode2-r16 Indicates whether the UE supports semi-static power sharing mode2 between MCG and SCG cells of same frequency range for synchronous intra-FR NR DC as defined in TS 38.213 [11]. The UE indicating the support of this also indicates the support of *intraFR-NR-DC-PwrSharingMode1-r16.* In case MCG and SCG have cells in different frequency ranges, this field indicates the support of power sharing only between MCG and SCG cells with UL in FR1.	BC	No	No	FR1 only
intraFR-NR-DC-DynamicPwrSharing-r16 Indicates the UE support of dynamic power sharing for intra-FR NR DC between MCG and SCG cells of same frequency range with long or short offset as specified in TS 38.213 [11]. The UE indicating the support of this also indicates the support of *intraFR-NR-DC-PwrSharingMode1-r16.* In case MCG and SCG have cells in different frequency ranges, this field indicates the support of power sharing only between MCG and SCG cells with UL in FR1.	BC	No	No	FR1 only
sfn-SyncNRDC Indicates the UE supports NR-DC only with SFN and frame synchronization between PCell and PSCell. If not included by the UE supporting NR-DC, the UE supports NR-DC with slot-level synchronization without condition on SFN and frame synchronization. In this release of the specification, the UE shall not report this UE capability.	UE	No	No	No
supportedCellGrouping-r16 Indicates which NR-DC cell groupings the UE supports for the given NR DC band combination, i.e., mapping of serving cells to MCG and SCG, and the operation mode (synchronous or asynchronous), as requested by the network via *requestedCellGrouping-r16*. The IDs reported in this field refer to the cell groupings that the network requested in *requestedCellGrouping-r16*. ID#0 corresponds to the first element in *requestedCellGrouping-r16*, ID#1 corresponds to the second element in *requestedCellGrouping-r16* and so on. NOTE: Irrespective of the indicated *supportedCellGrouping-r16*, the UE shall also support NR-DC where all FR1 serving cells are in the MCG and all FR2 serving cells are in the SCG, as described in *ca-ParametersNRDC*.	BC	No	No	No

4.2.7.13 *CarrierAggregationVariant*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
fr1fdd-FR1TDD-CA-SpCellOnFR1FDD Indicates whether the UE supports an FR1 FDD SpCell (and possibly SCells) when configured with an FR1 TDD SCell.	UE	No	No	No
fr1fdd-FR1TDD-CA-SpCellOnFR1TDD Indicates whether the UE supports an FR1 TDD SpCell (and possibly SCells) when configured with an FR1 FDD SCell.	UE	No	No	No
fr1fdd-FR1TDD-FR2TDD-CA-SpCellOnFR1FDD Indicates whether the UE supports an FR1 FDD SpCell (and possibly SCells) when configured with an FR1 TDD SCell and an FR2 TDD SCell.	UE	No	No	No
fr1fdd-FR1TDD-FR2TDD-CA-SpCellOnFR1TDD Indicates whether the UE supports an FR1 TDD SpCell (and possibly SCells) when configured with an FR1 FDD SCell and an FR2 TDD SCell.	UE	No	No	No
fr1fdd-FR1TDD-FR2TDD-CA-SpCellOnFR2TDD Indicates whether the UE supports an FR2 TDD SpCell (and possibly SCells) when configured with an FR1 FDD SCell and an FR1 TDD SCell.	UE	No	No	No
fr1fdd-FR2TDD-CA-SpCellOnFR1FDD Indicates whether the UE supports an FR1 FDD SpCell (and possibly SCells) when configured with an FR2 TDD SCell.	UE	No	No	No
fr1fdd-FR2TDD-CA-SpCellOnFR2TDD Indicates whether the UE supports an FR2 TDD SpCell (and possibly SCells) when configured with an FR1 FDD SCell.	UE	No	No	No
fr1tdd-FR2TDD-CA-SpCellOnFR1TDD Indicates whether the UE supports an FR1 TDD SpCell (and possibly SCells) when configured with an FR2 TDD SCell.	UE	No	No	No
fr1tdd-FR2TDD-CA-SpCellOnFR2TDD Indicates whether the UE supports an FR2 TDD SpCell (and possibly SCells) when configured with an FR1 TDD SCell.	UE	No	No	No

4.2.7.14 *Phy-ParametersSharedSpectrumChAccess*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
configuredUL-GrantType1-r16 Indicates whether the UE supports Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one in shared spectrum channel access.	UE	No	No	No
configuredUL-GrantType2-r16 Indicates whether the UE supports Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one in shared spectrum channel access.	UE	No	No	No
downlinkSPS-r16 Indicates whether the UE supports PDSCH reception based on semi-persistent scheduling. One SPS configuration is supported per cell group in shared spectrum channel access.	UE	No	No	No
dynamicSFI-r16 Indicates whether the UE supports monitoring for DCI format 2_0 and determination of slot formats via DCI format 2_0 in shared spectrum channel access.	UE	No	No	No
mux-HARQ-ACK-PUSCH-DiffSymbol-r16 Indicates whether the UE supports HARQ-ACK piggyback on a PUSCH with/without aperiodic CSI once per slot when the starting OFDM symbol of the PUSCH is different from the starting OFDM symbols of the PUCCH resource that HARQ-ACK would have been transmitted on in shared spectrum channel access. This feature is mandatory if UE supports any of the deployment scenarios A.2, B, C, D and E in Annex B.3 of TS 38.300 [28].	UE	CY	No	No
mux-SR-HARQ-ACK-CSI-PUCCH-MultiPerSlot-r16 Indicates whether the UE supports multiplexing SR, HARQ-ACK and CSI on a PUCCH or piggybacking on a PUSCH more than once per slot when SR, HARQ-ACK and CSI are supposed to be sent with the same or different starting symbol in a slot in shared spectrum channel access.	UE	No	No	No
mux-SR-HARQ-ACK-CSI-PUCCH-OncePerSlot-r16 *sameSymbol* indicates the UE supports multiplexing SR, HARQ-ACK and CSI on a PUCCH or piggybacking on a PUSCH once per slot, when SR, HARQ-ACK and CSI are supposed to be sent with the same starting symbols on the PUCCH resources in a slot. *diffSymbol* indicates the UE supports multiplexing SR, HARQ-ACK and CSI on a PUCCH or piggybacking on a PUSCH once per slot, when SR, HARQ-ACK and CSI are supposed to be sent with the different starting symbols in a slot in shared spectrum channel access. If the UE indicates *sameSymbol* in this field and does not support *mux-HARQ-ACK-PUSCH-DiffSymbol-r16*, the UE supports HARQ-ACK/CSI piggyback on PUSCH once per slot, when the starting OFDM symbol of the PUSCH is the same as the starting OFDM symbols of the PUCCH resource(s) that would have been transmitted on. If the UE indicates *sameSymbol* in this field and supports *mux-HARQ-ACK-PUSCH-DiffSymbol-r16*, the UE supports HARQ-ACK/CSI piggyback on PUSCH once per slot for which case the starting OFDM symbol of the PUSCH is the different from the starting OFDM symbols of the PUCCH resource(s) that would have been transmitted on. The UE is mandated to support the multiplexing and piggybacking features indicated by *sameSymbol* for *mux-SR-HARQ-ACK-CSI-PUCCH-OncePerSlot-r16* if UE supports any of the deployment scenarios A.2, B, C, D and E in Annex B.3 of TS 38.300 [28].	UE	CY	No	No
mux-SR-HARQ-ACK-PUCCH-r16 Indicates whether the UE supports multiplexing SR and HARQ-ACK on a PUCCH or piggybacking on a PUSCH once per slot, when SR and HARQ-ACK are supposed to be sent with the different starting symbols in a slot in shared spectrum channel access.	UE	No	No	No
pdsch-RepetitionMultiSlots-r16 Indicates whether the UE supports receiving PDSCH scheduled by DCI format 1_1 when configured with higher layer parameter *pdsch-AggregationFactor* > 1, as defined in 5.1.2.1 of TS 38.214 [12] in shared spectrum channel access.	UE	No	No	No
pre-EmptIndication-DL-r16 Indicates whether the UE supports interrupted transmission indication for PDSCH reception based on reception of DCI format 2_1 as defined in TS 38.213 [11] in shared spectrum channel access.	UE	No	No	No

pusch-RepetitionMultiSlots-r16 Indicates whether the UE supports transmitting PUSCH scheduled by DCI format 0_1 when configured with higher layer parameter *pusch-AggregationFactor* > 1, as defined in clause 6.1.2.1 of TS 38.214 [12] in shared spectrum channel access. This feature is mandatory if UE supports any of the deployment scenarios A.2, B, C, D and E in Annex B.3 of TS 38.300 [28].	UE	CY	No	No
pucch-Repetition-F1-3-4-r16 Indicates whether the UE supports transmission of a PUCCH format 1 or 3 or 4 over multiple slots with the repetition factor 2, 4 or 8 in shared spectrum channel access. This feature is mandatory if UE supports any of the deployment scenarios A.2(whenever PUCCH is supported on shared spectrum channel access cell), B, C, D and E in Annex B.3 of TS 38.300 [28].	UE	CY	No	No
sp-CSI-ReportPUCCH-r16 Indicates whether UE supports semi-persistent CSI reporting using PUCCH formats 2, 3 and 4 in shared spectrum channel access.	UE	No	No	No
sp-CSI-ReportPUSCH-r16 Indicates whether UE supports semi-persistent CSI reporting using PUSCH in shared spectrum channel access.	UE	No	No	No
ss-SINR-Meas-r16 Indicates whether the UE can perform SS-SINR measurement in shared spectrum channel access as specified in TS 38.215 [13].	UE	No	No	No
type1-PUSCH-RepetitionMultiSlots-r16 Indicates whether the UE supports Type 1 PUSCH transmissions with configured grant in shared spectrum channel access as specified in TS 38.214 [12] with UL-TWG-repK value equal to 2, 4, or 8 with a single repetition of the transport block within each slot, and redundancy version pattern as indicated by UL-TWG-RV-rep. A UE supporting this feature shall also support Type 1 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one.	UE	No	No	No
type2-PUSCH-RepetitionMultiSlots-r16 Indicates whether the UE supports Type 2 PUSCH transmissions with configured grant in shared spectrum channel access as specified in TS 38.214 [12] with UL-TWG-repK value equal to 2, 4, or 8 with a single repetition of the transport block within each slot, and redundancy version pattern as indicated by UL-TWG-RV-rep. A UE supporting this feature shall also support Type 2 PUSCH transmissions with configured grant as specified in TS 38.214 [12] with UL-TWG-repK value of one.	UE	No	No	No

4.2.8 Void

4.2.9 *MeasAndMobParameters*

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
cli-RSSI-Meas-r16 Indicates whether the UE can perform CLI RSSI measurements as specified in TS 38.215 [13] and supports periodical reporting and measurement event triggering as specified in TS 38.331 [9]. If the UE supports this feature, the UE needs to report *maxNumberCLI-RSSI-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measurement resources to be measured.	UE	No	TDD only	Yes
cli-SRS-RSRP-Meas-r16 Indicates whether the UE can perform SRS RSRP measurements as specified in TS 38.215 [13] and supports periodical reporting and measurement event triggering based on SRS-RSRP as specified in TS 38.331 [9]. If the UE supports this feature, the UE needs to report *maxNumberCLI-SRS-RSRP-r16* and *maxNumberPerSlotCLI-SRS-RSRP-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measurement resources to be measured.	UE	No	TDD only	Yes
condHandoverFDD-TDD-r16 Indicates whether the UE supports conditional handover between FDD and TDD cells. The parameter can only be set if *condHandover-r16* is set for both FDD and TDD. The UE that indicates support of this feature shall also indicate support of *handoverFDD-TDD*.	UE	No	No	No
condHandoverFR1-FR2-r16 Indicates whether the UE supports conditional handover HO between FR1 and FR2. The parameter can only be set if *condHandover-r16* is set for both FR1 and FR2. The UE that indicates support of this feature shall also indicate support of *handoverFR1-FR2*.	UE	No	No	No
csi-RS-RLM Indicates whether the UE can perform radio link monitoring procedure based on measurement of CSI-RS as specified in TS 38.213 [11] and TS 38.133 [5]. This parameter needs FR1 and FR2 differentiation. If the UE supports this feature, the UE needs to report *maxNumberResource-CSI-RS-RLM*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-RS-RLM-r16* applies.	UE	Yes	No	Yes
csi-RSRP-AndRSRQ-MeasWithSSB Indicates whether the UE can perform CSI-RSRP and CSI-RSRQ measurement as specified in TS 38.215 [13], where CSI-RS resource is configured with an associated SS/PBCH. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. If the UE supports this feature, the UE needs to report *maxNumberCSI-RS-RRM-RS-SINR*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-RS-RLM-r16* applies.	UE	No	No	Yes
csi-RSRP-AndRSRQ-MeasWithoutSSB Indicates whether the UE can perform CSI-RSRP and CSI-RSRQ measurement as specified in TS 38.215 [13], where CSI-RS resource is configured for a cell that transmits SS/PBCH block and without an associated SS/PBCH block. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. If the UE supports this feature, the UE needs to report *maxNumberCSI-RS-RRM-RS-SINR*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-RSRP-AndRSRQ-MeasWithoutSSB-r16* applies.	UE	No	No	Yes
csi-SINR-Meas Indicates whether the UE can perform CSI-SINR measurements based on configured CSI-RS resources as specified in TS 38.215 [13]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponding to the frequency range of measured target cell. If the UE supports this feature, the UE needs to report *maxNumberCSI-RS-RRM-RS-SINR*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-SINR-Meas-r16* applies.	UE	No	No	Yes
eutra-AutonomousGaps-r16 Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when MR-DC is not configured.	UE	No	No	No

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
eutra-AutonomousGaps-NEDC-r16 Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NE-DC is configured.	UE	No	No	No
eutra-AutonomousGaps-NRDC-r16 Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NR-DC is configured.	UE	No	No	No
eutra-CGI-Reporting Defines whether the UE supports acquisition of relevant CGI-information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the (NG)EN-DC and NE-DC are not configured or, when consistent DRX is configured in NR-DC. The consistent DRX configuration implies that MN and SN have the same DRX cycle and on-duration configured by MN completely contains on-duration configured by SN. It is mandated if the UE supports EUTRA.	UE	CY	No	No
eutra-CGI-Reporting-NEDC Defines whether the UE supports acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the NE-DC is configured.	UE	No	No	No
eutra-CGI-Reporting-NRDC Defines whether the UE supports acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the NR-DC is configured wherein MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if the DRX cycles are the same.	UE	No	No	No
eventA-MeasAndReport Indicates whether the UE supports NR measurements and events A triggered reporting as specified in TS 38.331 [9]. This field only applies to SN configured measurement when (NG)EN-DC is configured. For NR SA, MN and SN configured measurement when NR-DC is configured, and MN configured measurement when NE-DC is configured, this feature is mandatory supported.	UE	Yes	Yes	No
eventB-MeasAndReport Indicates whether the UE supports EUTRA measurement and event B triggered reporting as specified in TS 38.331 [9]. It is mandated if the UE supports EUTRA.	UE	CY	No	No
handoverLTE-5GC Indicates whether the UE supports HO to EUTRA connected to 5GC. It is mandated if the UE supports EUTRA connected to 5GC.	UE	CY	Yes	Yes
handoverFDD-TDD Indicates whether the UE supports HO between FDD and TDD. It is mandated if the UE supports both FDD and TDD. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover). For PSCell change when (NG)EN-DC/NR-DC is configured, this feature is mandatory supported. UEs supporting this shall indicate support of *handoverInterF* for both FDD and TDD.	UE	Yes	No	No
handoverFR1-FR2 Indicates whether the UE supports HO between FR1 and FR2. Support is mandatory for the UE supporting both FR1 and FR2. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover). For PSCell change when (NG)EN-DC/NR-DC is configured, this feature is mandatory supported. UEs supporting this shall indicate support of *handoverInterF* for both FR1 and FR2.	UE	Yes	No	No
handoverInterF Indicates whether the UE supports inter-frequency HO. It indicates the support for inter-frequency HO from the corresponding duplex mode and from frequency range indicated to be supported as described in Annex B. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover). For PSCell change when (NG)EN-DC/NR-DC is configured, this feature is mandatory supported.	UE	Yes	Yes	Yes
handoverLTE-EPC Indicates whether the UE supports HO to EUTRA connected to EPC. It is mandated if the UE supports EUTRA connected to EPC.	UE	CY	Yes	Yes

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
idleInactiveNR-MeasReport-r16 Indicates whether the UE supports configuration of NR SSB measurements in RRC_IDLE/RRC_INACTIVE and reporting of the corresponding results upon network request as specified in TS 38.331 [9]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell.	UE	No	No	Yes
idleInactiveNR-MeasBeamReport-r16 Indicates whether the UE supports beam level measurements in RRC_IDLE/RRC_INACTIVE and reporting of the corresponding beam measurement results upon network request as specified in TS 38.331 [9]. A UE supports this feature shall also support *idleInactiveNR-MeasReport-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell.	UE	No	No	Yes
idleInactiveEUTRA-MeasReport-r16 Indicates whether the UE supports configuration of E-UTRA measurements in RRC_IDLE/RRC_INACTIVE and reporting of the corresponding results upon network request as specified in TS 38.331 [9].	UE	No	No	No
idleInactive-ValidityArea-r16 Indicates whether the UE supports configuration of a validity area for NR measurements in RRC_IDLE/RRC_INACTIVE as specified in TS 38.331 [9].	UE	No	No	No
independentGapConfig This field indicates whether the UE supports two independent measurement gap configurations for FR1 and FR2 specified in clause 9.1.2 of TS 38.133 [5]. The field also indicates whether the UE supports the FR2 inter-RAT measurement without gaps when (NG)EN-DC is not configured.	UE	No	No	No
intraAndInterF-MeasAndReport Indicates whether the UE supports NR intra-frequency and inter-frequency measurements and at least periodical reporting. This field only applies to SN configured measurement when (NG)EN-DC is configured. For NR SA, MN and SN configured measurement when NR-DC is configured, and MN configured measurement when NE-DC is configured, this feature is mandatory supported.	UE	Yes	Yes	No
interFrequencyMeas-NoGap-r16 Indicates whether the UE can perform inter-frequency SSB based measurements without measurement gaps if the SSB is completely contained in the active BWP of the UE as specified in TS 38.133 [5]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of cells to be measured.	UE	No	No	Yes
periodicEUTRA-MeasAndReport Indicates whether the UE supports periodic EUTRA measurement and reporting. It is mandated if the UE supports EUTRA.	UE	CY	No	No
maxNumberCLI-RSSI-r16 Defines the maximum number of CLI-RSSI measurement resources for CLI RSSI measurement. If the UE supports *cli-RSSI-Meas-r16*, the UE shall report this capability.	UE	CY	TDD only	No
maxNumberCLI-SRS-RSRP-r16 Defines the maximum number of SRS-RSRP measurement resources for SRS-RSRP measurement. If the UE supports *cli-SRS-RSRP-Meas-r16*, the UE shall report this capability. NOTE 1: A slot is based on minimum SCS among active BWPs across all CCs configured for SRS-RSRP measurement. NOTE 2: A SRS resource occasion that overlaps with the slot is counted as one measurement resource in the slot.	UE	CY	TDD only	No
increasedNumberofCSIRSPerMO-r16 Indicates support of up to 192 CSI-RS resource for L3 mobility configuration per measurement object configured with *associatedSSB*.	UE	No	No	Yes
maxNumberCSI-RS-RRM-RS-SINR Defines the maximum number of CSI-RS resources for RRM and RS-SINR measurement across all measurement frequencies per slot. If UE supports any of *csi-RSRP-AndRSRQ-MeasWithSSB*, *csi-RSRP-AndRSRQ-MeasWithoutSSB*, and *csi-SINR-Meas*, UE shall report this capability. NOTE: A slot is based on minimum SCS among all measurement frequencies configured for RRM and RS-SINR measurement.	UE	CY	No	No

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
maxNumberPerSlotCLI-SRS-RSRP-r16 Defines the maximum number of SRS-RSRP measurement resources per slot for SRS-RSRP measurement. If the UE supports *cli-SRS-RSRP-Meas-r16*, the UE shall report this capability.	UE	CY	TDD only	No
maxNumberResource-CSI-RS-RLM Defines the maximum number of CSI-RS resources within a slot per spCell for CSI-RS based RLM. If UE supports any of *csi-RS-RLM* and *ssb-AndCSI-RS-RLM*, UE shall report this capability.	UE	CY	No	Yes
nr-AutonomousGaps-r16 Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when MR-DC is not configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell.	UE	No	No	Yes
nr-AutonomousGaps-ENDC-r16 Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when (NG)EN-DC is configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell.	UE	No	No	Yes
nr-AutonomousGaps-NEDC-r16 Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NE-DC is configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell.	UE	No	No	Yes
nr-AutonomousGaps-NRDC-r16 Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NR-DC is configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell.	UE	No	No	Yes
nr-CGI-Reporting Defines whether the UE supports acquisition of relevant CGI-information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when (NG)EN-DC and NE-DC are not configured or, when consistent DRX is configured in NR-DC. The consistent DRX configuration implies that MN and SN have the same DRX cycle and on-duration configured by MN completely contains on-duration configured by SN.	UE	Yes	No	No
nr-CGI-Reporting-ENDC Defines whether the UE supports acquisition of relevant CGI-information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the (NG)EN-DC is configured.	UE	Yes	No	No
reportAddNeighMeasForPeriodic-r16 Defines whether the UE supports periodic reporting of best neighbour cells per serving frequency, as defined in TS 38.331 [9].	UE	Yes	No	No
nr-CGI-Reporting-NEDC Defines whether the UE supports acquisition of relevant information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the NE-DC is configured.	UE	Yes	No	No
nr-CGI-Reporting-NPN-r16 Defines whether the UE supports acquisition of NPN-relevant CGI-information from a neighbouring intra-frequency or inter-frequency NR NPN cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9]. If UE supports NPN, UE shall report this capability.	UE	CY	No	No

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
nr-CGI-Reporting-NRDC Defines whether the UE supports acquisition of relevant information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the NR-DC is configured wherein MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if the DRX cycles are the same.	UE	Yes	No	No
nr-NeedForGap-Reporting-r16 Indicates whether the UE supports reporting the measurement gap requirement information for NR target in the UE response to a network configuration RRC message.	UE	No	No	No
pcellT312-r16 Indicates whether the UE supports T312 based fast failure recovery for PCell.	UE	No	No	No
simultaneousRxDataSSB-DiffNumerology Indicates whether the UE supports concurrent intra-frequency measurement on serving cell or neighbouring cell and PDCCH or PDSCH reception from the serving cell with a different numerology as defined in clause 8 and 9 of TS 38.133 [5].	UE	No	No	Yes
simultaneousRxDataSSB-DiffNumerology-Inter-r16 Indicates whether the UE supports concurrent SSB based inter-frequency measurement without measurement gap on neighbouring cell and PDCCH or PDSCH reception from the serving cell with a different numerology as defined in clause 8 and 9 of TS 38.133 [5]. UE indicates support of this indicates support of *interFrequencyMeas-NoGap-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range where the SSB and PDCCH/PDSCH are received.	UE	No	No	Yes
sftd-MeasPSCell Indicates whether the UE supports SFTD measurements between the PCell and a configured PSCell. If this capability is included in UE-MRDC-Capability, it indicates that the UE supports SFTD measurement between PCell and PSCell in (NG)EN-DC. If this capability is included in UE-NR-Capability, it indicates that the UE supports SFTD measurement between PCell and PSCell in NR-DC.	UE	No	Yes	No
sftd-MeasPSCell-NEDC Indicates whether the UE supports SFTD measurement between the NR PCell and a configured E-UTRA PSCell in NE-DC.	UE	No	Yes	No
sftd-MeasNR-Cell Indicates whether the SFTD measurement with and without measurement gaps between the EUTRA PCell and the NR cells is supported by the UE which is capable of EN-DC/NGEN-DC when EN-DC/NGEN-DC is not configured. The SFTD measurement without gaps can be used when the UE supports at least one EN-DC band combination consisting of the set of the current E-UTRA serving frequencies and the NR frequency where SFTD measurement is configured. In UE-NR-Capability, this field is not used, and UE does not include the field.	UE	No	Yes	No
sftd-MeasNR-Neigh Indicates whether the inter-frequency SFTD measurement with and without measurement gaps between the NR PCell and inter-frequency NR neighbour cells is supported by the UE when MR-DC is not configured. The SFTD measurement without gaps can be used when the UE supports at least one DC or CA band combination consisting of the set of the current NR serving frequencies and the NR frequency where SFTD measurement is configured.	UE	No	Yes	No
sftd-MeasNR-Neigh-DRX Indicates whether the inter-frequency SFTD measurement using DRX off period between the NR PCell and the inter-frequency NR neighbour cells is supported by the UE when MR-DC is not configured.	UE	No	Yes	No
ssb-RLM Indicates whether the UE can perform radio link monitoring procedure based on measurement of SS/PBCH block as specified in TS 38.213 [11] and TS 38.133 [5]. This field shall be set to *supported*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *ssb-RLM-DynamicChAccess-r16* or *ssb-RLM-Semi-StaticChAccess-r16* applies.	UE	Yes	No	No

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
ssb-AndCSI-RS-RLM Indicates whether the UE can perform radio link monitoring procedure based on measurement of SS/PBCH block and CSI-RS as specified in TS 38.213 [11] and TS 38.133 [5]. If the UE supports this feature, the UE needs to report *maxNumberResource-CSI-RS-RLM*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *ssb-AndCSI-RS-RLM-r16* applies.	UE	No	No	No
ss-SINR-Meas Indicates whether the UE can perform SS-SINR measurement as specified in TS 38.215 [13]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *ss-SINR-Meas-r16* applies.	UE	No	No	Yes
supportedGapPattern Indicates measurement gap pattern(s) optionally supported by the UE for NR SA, for NR-DC, for NE-DC and for independent measurement gap configuration on FR2 in (NG)EN-DC. The leading / leftmost bit (bit 0) corresponds to the gap pattern 2, the next bit corresponds to the gap pattern 3, as specified in TS 38.133 [5] and so on. The UE shall set the bits corresponding to the measurement gap pattern 13, 14, 17, 18 and 19 to 1 if the UE is an NR standalone capable UE that supports a band in FR2 or if the UE is an (NG)EN-DC capable UE that supports *independentGapConfig* and supports a band in FR2.	UE	CY	No	No
supportedGapPattern-r16 Indicates measurement gap pattern(s) optionally supported by the UE for NR SA, for NR-DC for PRS measurement and NR/E-UTRA RRM measurement. The leading / leftmost bit (bit 0) corresponds to the gap pattern 24, the next bit corresponds to the gap pattern 25, as specified in TS 38.133 [5]. The applicability of the gap patterns 24 and 25 is defined in clause 9.1.2 of TS 38.133 [5]. A UE that indicates support of this capability shall indicate support of *NR-DL-PRS-ProcessingCapability-r16* defined in TS 37.355 [22].	UE	No	No	No
supportedGapPattern-NRonly-r16 Indicates measurement gap pattern(s) optionally supported by the UE for NR SA and NR-DC when the frequencies to be measured within this measurement gap are all NR frequencies. The leading / leftmost bit (bit 0) corresponds to the gap pattern 2, the next bit corresponds to the gap pattern 3 and so on. The UE shall set the bits corresponding to the measurement gap pattern 2, 3 and 11 to 1.	UE	FD	No	No
supportedGapPattern-NRonly-NEDC-r16 Indicates whether the UE supports gap patterns 2, 3 and 11 in NE-DC when the frequencies to be measured within this measurement gap are all NR frequencies.	UE	No	No	No

4.2.9a MeasAndMobParametersMRDC

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
condPSCellChangeFDD-TDD-r16 Indicates whether the UE supports conditional PSCell change between FDD and TDD cells. The parameter can only be set if *condPSCellChange-r16* is set for both FDD and TDD.	UE	No	No	No
condPSCellChangeFR1-FR2-r16 Indicates whether the UE supports conditional PSCell change between FR1 and FR2. The parameter can only be set if *condPSCellChange-r16* is set for both FR1 and FR2.	UE	No	No	No
pscellT312-r16 Indicates whether the UE supports T312 based fast failure recovery for PSCell.	UE	No	No	No

4.2.10 Inter-RAT parameters

Definitions for parameters	Per	M	FDD-TDD DIFF
mfbi-EUTRA Indicates whether the UE supports the mechanisms defined for cells broadcasting multi band information i.e. comprehending *multiBandInfoList* defined in TS 36.331 [17].	UE	Yes	No
modifiedMPR-BehaviorEUTRA *modifiedMPR-Behavior* in 4.3.5.10, TS 36.306 [15].	UE	No	No
multiNS-Pmax-EUTRA *multiNS-Pmax* defined in 4.3.5.16, TS 36.306 [15].	UE	No	No
ne-DC Indicates whether the UE supports NE-DC as specified in TS 37.340 [7].	UE	No	No
nr-HO-ToEN-DC-r16 Indicates whether the UE supports inter-RAT handover from NR to EN-DC while NR-DC or NE-DC is not configured as defined in TS 36.306 [15]. It is mandated if the UE supports EN-DC.	UE	CY	No
rs-SINR-MeasEUTRA *rs-SINR-Meas* in 4.3.6.13, TS 36.306 [15].	UE	No	No
rsrqMeasWidebandEUTRA *rsrqMeasWideband* in 4.3.6.2, TS 36.306 [15]. If this parameter is indicated for FDD and TDD differently, each indication corresponds to the duplex mode of measured target cell.	UE	No	Yes
supportedBandListEUTRA *supportedBandListEUTRA* defined in 4.3.5.1, TS 36.306 [15].	UE	No	No
supportedBandListUTRA-FDD-r16 *Radio frequency bands* defined in 4.5.7, TS 25.306 [20].	UE	No	No

4.2.10.1 Void

4.2.10.2 Void

4.2.11 Void

4.2.12 Void

4.2.13 IMS Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
voiceFallbackIndicationEPS-r16 Indicates whether the UE supports *voiceFallbackIndication* in *RRCRelease* and *MobilityFromNRCommand*. If this field is included, the UE shall support IMS voice over NR and IMS voice over E-UTRA via EPC.	UE	No	No	No
voiceOverEUTRA-5GC Indicates whether the UE supports IMS voice over E-UTRA via 5GC. It is mandated to the UE if the UE is capable of IMS voice over E-UTRA via 5GC. Otherwise, the UE does not include this field. If this field is included and the UE is capable of E-UTRA with EPC, the UE shall support IMS voice over E-UTRA via EPC.	UE	No	No	No
voiceOverNR Indicates whether the UE supports IMS voice over NR. It is mandated to the UE if the UE is capable of IMS voice over NR. Otherwise, the UE does not include this field. If this field is included and the UE is capable of E-UTRA with EPC, the UE shall support IMS voice over E-UTRA via EPC.	UE	No	No	Yes
voiceOverSCG-BearerEUTRA-5GC Indicates whether the UE supports IMS voice over SCG bearer of NE-DC.	UE	No	No	N/A

NOTE: In this release of specification, IMS voice over split bearer is not supported for NR-DC and NE-DC.

4.2.14 RRC buffer size

The RRC buffer size is defined as the maximum overall RRC configuration size that the UE is required to store. The RRC buffer size is 45Kbytes.

4.2.15 IAB Parameters

4.2.15.1 Mandatory IAB-MT features

Table 4.2.15.1-1, Table 4.2.15.1-2 and Table 4.2.15.1-3 capture feature groups, which are mandatory for an IAB-MT. All other feature groups or components of the feature groups as captured in TR 38.822 [24] as well as capabilities specified in this specification are optional for an IAB-MT, unless indicated otherwise.

Table 4.2.15.1-1: Layer-1 mandatory features for IAB-MT

Features	Index	Feature group	Components	Additional information
0. Waveform, modulation, subcarrier spacings, and CP	0-1	CP-OFDM waveform for DL and UL	1) CP-OFDM for DL 2) CP -OFDM for UL	
	0-3	DL modulation scheme	1) QPSK modulation 2) 16QAM modulation 3) 64QAM modulation for FR1	
	0-4	UL modulation scheme	1) QPSK modulation 2) 16QAM modulation	
1. Initial access and mobility	1-1	Basic initial access channels and procedures	1) RACH preamble format 2) SS block based RRM measurement 3) Broadcast SIB reception including RMSI/OSI and paging	Only 1 preamble for component 1), component 2), component 3) except paging
	1-3	SS block based RLM	SS-SINR measurement	
2. MIMO	2-1	Basic PDSCH reception	1) Data RE mapping 2) Single layer transmission 3) Support one TCI state	
	2-5	Basic downlink DMRS for scheduling type A	1) Support 1 symbol FL DMRS without additional symbol(s) 2) Support 1 symbol FL DMRS and 1 additional DMRS symbol 3) Support 1 symbol FL DMRS and 2 additional DMRS symbols for at least one port.	
	2-6	Basic downlink DMRS for scheduling type B	1) Support 1 symbol FL DMRS without additional symbol(s) 2) Support 1 symbol FL DMRS and 1 additional DMRS symbol	
	2-12	Basic PUSCH transmission	Data RE mapping Single layer (single Tx) transmission Single port, single resource SRS transmission (SRS set use is configured as for codebook)	
	2-16	Basic uplink DMRS (uplink) for scheduling type A	1) Support 1 symbol FL DMRS without additional symbol(s) 2) Support 1 symbol FL DMRS and 1 additional DMRS symbols 3) Support 1 symbol FL DMRS and 2 additional DMRS symbols	
	2-16a	Basic uplink DMRS for scheduling type B	1) Support 1 symbol FL DMRS without additional symbol(s) 2) Support 1 symbol FL DMRS and 1 additional DMRS symbol	
	2-22	Aperiodic beam report	Support aperiodic report on PUSCH	
	2-32	Basic CSI feedback	1) Type I single panel codebook based PMI (further discuss which mode or both to be supported as mandatory) 2) 2Tx codebook for FR1 and FR2 3) 4Tx codebook for FR1 4) 8Tx codebook for FR1 when configured as wideband CSI report 7) a-CSI on PUSCH (at least Z value >= 14 symbols, detail processing time to be discussed separately) further check a-CSI on p-CSI-RS and/or SP-CSI-RS from component-7	
	2-50	Basic TRS	1) Support of TRS (mandatory) 2) All the periodicity are supported.	
	2-52	Basic SRS	1) Support 1 port SRS transmission 2) Support periodic/aperiodic SRS transmission	

3. DL control channel and procedure	3-1	Basic DL control channel	1) One configured CORESET per BWP per cell in addition to CORESET0 - CORESET resource allocation of 6RB bit-map and duration of 1 – 3 OFDM symbols for FR1 - For type 1 CSS without dedicated RRC configuration and for type 0, 0A, and 2 CSSs, CORESET resource allocation of 6RB bit-map and duration 1-3 OFDM symbols for FR2 - For type 1 CSS with dedicated RRC configuration and for type 3 CSS, UE specific SS, CORESET resource allocation of 6RB bit-map and duration 1-2 OFDM symbols for FR2 - REG-bundle sizes of 2/3 RBs or 6 RBs - Interleaved and non-interleaved CCE-to-REG mapping - Precoder-granularity of REG-bundle size - PDCCH DMRS scrambling determination - TCI state(s) for a CORESET configuration 2) CSS and UE-SS configurations for unicast PDCCH transmission per BWP per cell - PDCCH aggregation levels 1, 2, 4, 8, 16 - UP to 3 search space sets in a slot for a scheduled SCell per BWP This search space limit is before applying all dropping rules. - For type 1 CSS with dedicated RRC configuration, type 3 CSS, and UE-SS, the monitoring occasion is within the first 3 OFDM symbols of a slot - For type 1 CSS without dedicated RRC configuration and for type 0, 0A, and 2 CSS, the monitoring occasion can be any OFDM symbol(s) of a slot, with the monitoring occasions for any of Type 1- CSS without dedicated RRC configuration, or Types 0, 0A, or 2 CSS configurations within a single span of three consecutive OFDM symbols within a slot 3) Monitoring DCI formats 0_0, 1_0, 0_1, 1_1 4) Number of PDCCH blind decodes per slot with a given SCS follows Case 1-1 table 5) Processing one unicast DCI scheduling DL and one unicast DCI scheduling UL per slot per scheduled CC for FDD	
4. UL control channel and procedure	4-1	Basic UL control channel	1) PUCCH format 0 over 1 OFDM symbols once per slot 2) PUCCH format 0 over 2 OFDM symbols once per slot with frequency hopping as "enabled" 3) PUCCH format 1 over 4 – 14 OFDM symbols once per slot with intra-slot frequency hopping as "enabled" 5) One SR configuration per PUCCH group 6) HARQ-ACK transmission once per slot with its resource/timing determined by using the DCI 7) SR/HARQ multiplexing once per slot using a PUCCH when SR/HARQ-ACK are supposed to be sent by overlapping PUCCH resources with the same starting symbols in a slot 8) HARQ-ACK piggyback on PUSCH with/without aperiodic CSI once per slot when the starting OFDM symbol of the PUSCH is the same as the starting OFDM symbols of the PUCCH resource that HARQ-ACK would have been transmitted on 9) Semi-static beta-offset configuration for HARQ-ACK 10) Single group of overlapping PUCCH/PUCCH and overlapping PUCCH/PUSCH s per slot per PUCCH cell group for control multiplexing	
	4-10	Dynamic HARQ-ACK codebook	Dynamic HARQ-ACK codebook	

5. Scheduling /HARQ operation	5-1	Basic scheduling/HARQ operation	1) Frequency-domain resource allocation - RA Type 0 only and Type 1 only for PDSCH without interleaving - RA Type 1 for PUSCH without interleaving 2) Time-domain resource allocation - 1-14 OFDM symbols for PUSCH once per slot - One unicast PDSCH per slot - Starting symbol, and duration are determined by using the DCI - PDSCH mapping type A with 7-14 OFDM symbols - PUSCH mapping type A and type B - For type 1 CSS without dedicated RRC configuration and for type 0, 0A, and 2 CSS, PDSCH mapping type A with {4-14} OFDM symbols and type B with {2, 4, 7} OFDM symbols 3) TBS determination 4) Nominal UE processing time for N1 and N2 (Capability #1) 5) HARQ process operation with configurable number of DL HARQ processes of up to 16 6) Cell specific RRC configured UL/DL assignment for TDD 7) Dynamic UL/DL determination based on L1 scheduling DCI with/without cell specific RRC configured UL/DL assignment 9) In TDD support at most one switch point per slot for actual DL/UL transmission(s) 10) DL scheduling slot offset K0=0 12) UL scheduling slot offset K2<=12 For type 1 CSS without dedicated RRC configuration and for type 0, 0A, and 2 CSS, interleaving for VRB-to-PRB mapping for PDSCH	
6. CA/DC, BWP, SUL	6-1	Basic BWP operation with restriction	1) 1 UE-specific RRC configured DL BWP per carrier 2) 1 UE-specific RRC configured UL BWP per carrier 3) RRC reconfiguration of any parameters related to BWP 4) BW of a UE-specific RRC configured BWP includes BW of CORESET#0 (if CORESET#0 is present) and SSB for PCell/PSCell (if configured) and BW of the UE-specific RRC configured BWP includes SSB for SCell if there is SSB on SCell	
7. Channel coding	7-1	Channel coding	1) LDPC encoding and associated functions for data on DL and UL 2) Polar encoding and associated functions for PBCH, DCI, and UCI 3) Coding for very small blocks	
8. UL TPC	8-3	Basic power control operation	1) Accumulated power control mode for closed loop 2) 1 TPC command loop for PUSCH, PUCCH respectively 3) One or multiple DL RS configured for pathloss estimation 4) One or multiple p0-alpha values configured for open loop PC 5) PUSCH power control 6) PUCCH power control 7) PRACH power control 8) SRS power control 9) PHR	

Table 4.2.15.1-2: Layer-2 and Layer-3 mandatory features for IAB-MT

Features	Index	Feature group	Components	Additional information
0. General	N/A	IAB procedures	1) Routing using BAP protocol, as specified in TS 38.340 [23] 2) Bearer mapping using BAP protocol, as specified in TS 38.340 [23] 3) IAB-node IP address signalling over RRC, as specified in TS 38.331 [9]	
1. PDCP	1-0	Basic PDCP procedures	1) (de)Ciphering on SRB 2) Integrity protection on SRB 3) Timer based SDU discard 4) Re-ordering and in-order delivery 6) Duplicate discarding 7) 18bits SN	
2. RLC	2-0	Basic RLC procedures	1) RLC TM 2) RLC AM with 18bits SN 3) SDU discard	
	2-4	NR RLC SN size for SRB	NR RLC SN size for SRB	
3. MAC	3-0	Basic MAC procedures	1) RA procedure on PCell 2) IAB-MT initiated RA procedure (including for beam recovery purpose) 3) NW initiated RA procedure (i.e. based on PDCCH) 4) Support of ssb-Threshold and association between preamble/PRACH occasion and SSB 5) Preamble grouping 6) UL single TA maintenance 7) HARQ operation for DL and UL 8) LCH prioritization 9) Prioritized bit rate 10) Multiplexing 11) SR with single SR configuration 12) BSR 13) PHR 14) 8bits and 16bits L field	
9. RRC	9-1	RRC buffer size	Maximum overall RRC configuration size	45 Kbytes
	9-2	RRC processing time	1) RRC connection establishment 2) RRC connection resume without SCell addition/release and SCG establishment/modification/release 3) RRC connection reconfiguration without SCell addition/release and SCG establishment/modification/release 4) RRC connection re-establishment. 5) RRC connection reconfiguration with sync procedure 6) RRC connection reconfiguration with SCell addition/release or SCG establishment/modification/release 7) RRC connection resume 8) Initial security activation 9) Counter check 10) UE capability transfer	1) to 3) 10ms 4) 10ms 5): 10ms + additional delay (cell search time and synchronization) defined in TS 38.133 6) and 7) 16ms 7) 10 or 6ms (See details in clause 12, TS 38.331) 8) and 9) 5ms 10) 80ms

Table 4.2.15.1-3: RF/RRM mandatory features for IAB-MT

Features	Index	Feature group	Components	Additional information
1. System parameter	1-2	64QAM modulation for FR2 PDSCH	64QAM modulation for FR2 PDSCH	
	1-3	64QAM for PUSCH	64QAM for PUSCH	

4.2.15.2 General Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
bh-RLF-Indication-r16 Indicates whether the IAB-MT supports BH RLF indication handling as specified in TS 38.331 [9] and in TS 38.340 [23]	IAB-MT	No	No	No
directSN-AdditionFirstRRC-IAB-r16 Indicates whether the IAB-MT supports direct SN addition in the first RRC connection reconfiguration after RRC connection establishment.	IAB-MT	No	No	No

4.2.15.3 SDAP Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
sdap-QOS-IAB-r16 Indicates whether the IAB-MT supports flow-based QoS and multiple flows to 1 DRB mapping, as specified in TS 37.324 [25].	IAB-MT	No	No	No
sdapHeaderIAB-r16 Indicates whether the IAB-MT supports UL SDAP header and SDAP End-marker, as specified in TS 37.324 [25].	IAB-MT	No	No	No

4.2.15.4 PDCP Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
drb-IAB-r16 Indicates whether the IAB-MT supports DRB configuration including split DRB with one UL path, (de)ciphering on DRB and PDCP status reporting.	IAB-MT	No	No	No
non-DRB-IAB-r16 Indicates whether the IAB-MT supports SRB2 configuration without a DRB, as specified in TS 38.331 [9].	IAB-MT	No	No	No

4.2.15.5 BAP Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
flowControlBH-RLC-ChannelBased-r16 Indicates whether the IAB-MT supports flow control procedures and flow control feedback per backhaul RLC channel, as specified in TS 38.340 [23].	IAB-MT	No	No	No
flowControlRouting-ID-Based-r16 Indicates whether the IAB-MT supports flow control procedures and flow control feedback per Routing ID, as specified in TS 38.340 [23].	IAB-MT	No	No	No

4.2.15.6 MAC Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
lcid-ExtensionIAB-r16 Indicates whether the IAB-MT supports extended Logical Channel ID space using two-octet eLCID, as specified in TS 38.321 [8].	IAB-MT	No	No	No
preEmptiveBSR-r16 Indicates whether the IAB-MT supports Pre-emptive BSR as specified in TS 38.321 [8].	IAB-MT	No	No	No

4.2.15.7 Physical layer parameters

4.2.15.7.1 BandNR parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
handoverIntraF-IAB-r16 Indicates whether the IAB-MT supports intra-frequency HO. It indicates the support for intra-frequency HO from the corresponding duplex mode if this capability is included in *fdd-Add-UE-NR-Capabilities* or *tdd-Add-UE-NR-Capabilities*. It indicates the support for intra-frequency HO in the corresponding frequency range if this capability is included in *fr1-Add-UE-NR-Capabilities* or *fr2-Add-UE-NR-Capabilities*. IAB-MT shall set the capability value consistently for all FDD-FR1 bands, all TDD-FR1 bands and all TDD-FR2 bands respectively.	Band	No	N/A	N/A
multipleTCI Indicates whether IAB-MT supports more than one TCI state configurations per CORESET. UE is only required to track one active TCI state per CORESET. UE is required to support minimum between 64 and number of configured TCI states indicated by *tci-StatePDSCH*.	Band	No	N/A	N/A
rasterShift7dot5-IAB-r16 Indicates whether the IAB-MT supports 7.5kHz UL raster shift in the indicated band.	Band	No	N/A	N/A

4.2.15.7.2 Phy-Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
dft-S-OFDM-WaveformUL-IAB-r16 Indicates whether the IAB-MT supports DFT-S-OFDM waveform for UL and transform precoding for single-layer PUSCH.	IAB-MT	No	No	No
dci-25-AI-RNTI-Support-IAB-r16 Indicates the support of monitoring DCI Format 2_5 scrambled by AI-RNTI for indication of soft resource availability to an IAB node as specified in TS 38.212 [10].	IAB-MT	No	No	No
guardSymbolReportReception-IAB-r16 Indicates the support of DesiredGuardSymbols reporting and ProvidedGuardSymbols reception as specified in TS 38.213 [11].	IAB-MT	No	No	No
pdsch-MappingTypeA Indicates whether the IAB-MT supports receiving PDSCH using PDSCH mapping type A with less than seven symbols.	IAB-MT	No	No	No
pucch-F2-WithFH Indicates whether the IAB-MT supports transmission of a PUCCH format 2 (2 OFDM symbols in total) with frequency hopping in a slot.	IAB-MT	No	No	Yes
pucch-F3-WithFH Indicates whether the IAB-MT supports transmission of a PUCCH format 3 (4~14 OFDM symbols in total) with frequency hopping in a slot.	IAB-MT	No	No	Yes
separateSMTC-InterIAB-Support-r16 Indicates the support of up to 4 SMTCs configurations per frequency location, including IAB-specific SMTC window periodicities.	IAB-MT	No	No	No
separateRACH-IAB-Support-r16 Indicates the support of separate RACH configurations including new IAB-specific offset and scaling factors.	IAB-MT	No	No	No
t-DeltaReceptionSupport-IAB-r16 Indicates the support of T_delta reception for case 1 OTA timing alignment as specified in TS 38.213 [11].	IAB-MT	No	No	No
ul-flexibleDL-SlotFormatSemiStatic-IAB-r16 Indicates the support of semi-static configuration/indication of UL-Flexible-DL slot formats for IAB-MT resources.	IAB-MT	No	No	No
ul-flexibleDL-SlotFormatDynamics-IAB-r16 Indicates the support of dynamic indication of UL-Flexible-DL slot formats for IAB-MT resources.	IAB-MT	No	No	No

4.2.15.8 MeasAndMobParameters Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
eventA-MeasAndReport Indicates whether the IAB-MT supports NR measurements and events A triggered reporting as specified in TS 38.331 [9].	IAB-MT	Yes	Yes	No
handoverInterF Indicates whether the IAB-MT supports inter-frequency HO. It indicates the support for inter-frequency HO from the corresponding duplex mode if this capability is included in fdd-Add-UE-NR-Capabilities or tdd-Add-UE-NR-Capabilities. It indicates the support for inter-frequency HO from the corresponding frequency range if this capability is included in fr1-Add-UE-NR-Capabilities or fr2-Add-UE-NR-Capabilities.	IAB-MT	No	Yes	Yes
mfbi-IAB-r16 Indicates whether the IAB-MT supports multiple frequency band indication.	IAB-MT	No	No	No
intraAndInterF-MeasAndReport Indicates whether the IAB-MT supports NR intra-frequency and inter-frequency measurements and at least periodical reporting.	IAB-MT	Yes	Yes	No

4.2.15.9 MR-DC Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
f1c-OverEUTRA-r16 Indicates whether the IAB-MT supports F1-C signalling over *DLInformationTransfer* and *ULInformationTransfer* messages via MN when IAB-MT operates in EN-DC mode, as specified in TS 36.331 [17].	IAB-MT	No	No	No
scg-DRB-NR-IAB-r16 Indicates whether the IAB-MT supports SCG DRB with NR PDCP when IAB-MT operates in EN-DC mode.	IAB-MT	No	No	No
interNR-MeasEUTRA-IAB-r16 Indicates whether the IAB-MT supports NR measurement and reports while in EUTRA connected and event B1-based measurement and reports while in EUTRA connected.	IAB-MT	No	No	No

4.2.16 Sidelink Parameters

4.2.16.1 Sidelink Parameters in NR

4.2.16.1.1 Sidelink General Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
accessStratumReleaseSidelink-r16 Indicates the access stratum release for NR sidelink communication the UE supports as specified in TS 38.331 [9].	UE	Yes	No	No

4.2.16.1.2 Sidelink PDCP Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
outOfOrderDeliverySidelink-r16 Indicates whether UE supports out of order delivery of data to upper layers by PDCP for sidelink.	UE	No	No	No

4.2.16.1.3 Sidelink RLC Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
am-WithLongSN-Sidelink-r16 Indicates whether the UE supports AM DRB with 18 bit length of RLC sequence number for sidelink.	UE	No	No	No
um-WithLongSN-Sidelink-r16 Indicates whether the UE supports UM DRB with 12 bit length of RLC sequence number for sidelink.	UE	No	No	No

4.2.16.1.4 Sidelink MAC Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
lcp-RestrictionSidelink-r16 Indicates whether UE supports the selection of logical channels for each SL grant based on RRC configured restriction.	UE	No	No	No
logicalChannelSR-DelayTimerSidelink-r16 Indicates whether the UE supports the logicalChannelSR-DelayTimer as specified in TS 38.321 [8] for sidelink logical channel(s).	UE	No	Yes	No
multipleSR-ConfigurationsSidelink-r16 Indicates whether the UE supports 8 SR configurations per PUCCH cell group as specified in TS 38.321 [8] for sidelink.	UE	No	Yes	No
multipleConfiguredGrantsSidelink-r16 Indicates whether UE supports 8 sidelink configured grant configurations (including both Type 1 and Type 2) in a resource pool. If absent, for each resource pool, the UE only supports one sidelink configured grant configuration.	UE	No	No	No

4.2.16.1.5 Other PHY parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
supportedBandCombinationListSidelinkEUTRA-NR-r16 Defines the supported NR sidelink communication and/or V2X sidelink communication band combinations by the UE. A fallback band combination resulting from the reported sidelink band combination shall be supported by the UE. The UE does not include this field if the UE capability is requested by E-UTRAN (see TS 36.331 [17]) and the network request includes the field *eutra-nr-only*.	UE	No	No	No
supportedBandCombinationListSidelinkNR-r16 Defines the supported joint NR sidelink communication band combinations by the UE. A fallback band combination resulting from the reported sidelink band combination shall be supported by the UE.	UE	No	No	No
supportedBandListSidelink-r16 Indicates frequency bands supported for NR sidelink communications and parameters supported for each frequency band, as specified in 4.2.16.1.6.	UE	No	No	No

4.2.16.1.6 *BandSidelink* Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
sl-Reception-r16 Indicates whether receiving NR sidelink communication is supported. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - UE can receive NR PSCCH/PSSCH. - *harq-RxProcessSidelink*, which indicates the number of sidelink HARQ processes across all links that the UE supports for NR PSSCH reception. Value n16 corresponds to 16, n24 corresponds to 24, and so on. - *pscch-RxSidelink*, which indicates the number of PSCCH that the supports for reception in a slot. Value value1 corresponds to floor (N_{RB} /10 RBs), value2 corresponds to 2*floor (N_{RB} /10 RBs); - UE can attempt to decode N_{RB} non-overlapping RBs per slot. - UE supports reception of PSSCH according to the 64QAM MCS table. - UE supports PT-RS reception in FR2. - *scs-CP-PatternRxSidelink*, which indicates the subcarrier spacing with normal CP and the corresponding channel bandwidth that the UE supports for NR sidelink communication reception. Value scs-15kHz corresponds to 15kHz, scs-30kHz corresponds to 30kHz, and so on. It is mandatory for UE to support reception using 30 kHz subcarrier spacing with normal CP in FR1, and 120 kHz subcarrier spacing with normal CP FR2. For FR1, the bits in scs-XXkHz starting from the leading / leftmost bit indicate 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90 and 100MHz. For FR2, the bits in scs-XXkHz starting from the leading / leftmost bit indicate 50, 100 and 200MHz. This capability is not required to be signalled in a band indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. For a band indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1, UE supports reception using 30 kHz subcarrier spacing with normal CP in FR1, 120 kHz subcarrier spacing with normal CP in FR2. - *extendedCP-RxSidelink*, which indicates whether the UE supports 60 kHz subcarrier spacing with extended CP length for NR sidelink communication reception. This capability is not required to be signalled in a band indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. - UE supports 14-symbol SL slot with all DMRS patterns corresponding to number of PSSCH symbols = {12, 9} for slots with and without PSFCH. If UE signals support of extended CP, support 12-symbol SL slot with all DMRS patterns corresponding to number of PSSCH symbols = {10,7} for slots with and without PSFCH. NOTE 1: N_{RB} is the number of RBs defined per channel bandwidth by RAN4 in TS 38.101-1 [2], Table 5.3.2-1 for FR1 and TS 38.101-2 [3], Table 5.3.2.-1 for FR2. NOTE 2: Configuration by NR Uu is not required to be supported in a band indicated with only the PC5 interface in TS 38.101-1 [2] Table 5.2E.1-1. Support of this feature is mandatory if UE supports NR sidelink.	Band	CY	N/A	N/A

sl-TransmissionMode1-r16 Indicates whether transmitting NR sidelink mode 1 scheduled by Uu is supported. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - UE can transmit PSCCH/PSSCH using configured grant type 1. For NR sidelink mode 1 scheduled by NR Uu, UE can additionally transmit PSCCH/PSSCH using dynamic scheduling or configured grant type 2. Up to 8 configured grants can be configured for a UE. - *harq-TxProcessModeOneSidelink*, which indicates the number of sidelink HARQ processes across all links that the UE supports for NR PSSCH transmission using mode 1, including those for configured grants. Value n8 corresponds to 8, n16 corresponds to 16, and so on. - UE can transmit PSSCH according to the normal 64QAM MCS OFDM table. - UE supports PT-RS transmission in FR2. - For NR sidelink mode 1 scheduled by NR Uu, UE can monitor DCI format 3_0 for NR sidelink dynamic scheduling and configured grant type 2 on the same carrier as sidelink. - *scs-CP-PatternTxSidelinkModeOne*, which indicates the subcarrier spacing with normal CP and the corresponding bandwidth that the UE supports for NR sidelink communication transmission using NR sidelink mode 1. Value scs-15kHz corresponds to 15kHz, scs-30kHz corresponds to 30kHz, and so on. For FR1, the bits in scs-XXkHz starting from the leading / leftmost bit indicate 5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90 and 100MHz. For FR2, the bits in scs-XXkHz starting from the leading / leftmost bit indicate 50, 100 and 200MHz. For a band indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1, UE supports transmission using at least 30 kHz subcarrier spacing with normal CP in FR1, at least 120 kHz subcarrier spacing with normal CP in FR2. Otherwise, the reported subcarrier spacing with normal CP and the corresponding bandwidth that the UE supports shall be the same as reported for UL via *channelBWs-UL*. - *extendedCP-TxSidelink*, which indicates whether the UE supports 60 kHz subcarrier spacing with extended CP length for NR sidelink communication transmission using mode 1. For a band indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1, the reported subcarrier spacing with normal CP and the corresponding bandwidth that the UE supports shall be the same as reported for UL via *channelBWs-UL*. - UE supports 14-symbol SL slot with all DMRS patterns corresponding to the number of PSSCH symbols = {12, 9} for slots with and without PSFCH. If UE signals support of extended CP, support 12-symbol SL slot with all DMRS patterns corresponding to the number of PSSCH symbols = {10,7} for slots with and without PSFCH. - UE supports downlink pathloss based open loop power control for NR sidelink mode 1 scheduled by NR Uu if the band is not indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is not supported. - *harq-ReportOnPUCCH*, which indicates whether UE supports reporting sidelink HARQ-ACK to gNB via PUCCH and PUSCH when it is operating in NR sidelink mode 1, for NR sidelink mode 1 scheduled by NR Uu, if the band is indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. NOTE: Random selection in the exceptional pool is supported. Support of this feature is mandatory if UE supports NR sidelink in licensed spectrum where gNB is operating on or managing that spectrum.	Band	CY	N/A	N/A

sl-TransmissionMode2-r16 Indicates whether transmitting NR sidelink mode 2 is supported. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - UE can transmit PSCCH/PSSCH using NR sidelink mode 2 configured by NR Uu or preconfiguration. - *harq-TxProcessModeTwoSidelink*, which indicates the number of sidelink HARQ processes across all links that the UE supports for NR PSSCH transmission using mode 2. Value n8 corresponds to 8, n16 corresponds to 16. - UE can transmit PSSCH according to the normal 64QAM MCS table. - UE supports PT-RS transmission in FR2. - UE can perform mode 2 sensing and resource allocation operations - *scs-CP-PatternTxSidelinkModeTwo*, which indicates UE can transmit using the subcarrier spacing and CP length it reports in *sl-Reception-r16*. This capability is not required to be signalled in a band indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. For a band indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1, UE supports transmission using 30 kHz subcarrier spacing with normal CP in FR1, 120 kHz subcarrier spacing with normal CP in FR2. - UE supports 14-symbol SL slot with all DMRS patterns corresponding to the number of PSSCH symbols = {12, 9} for slots with and without PSFCH. If UE signals support of extended CP, support 12-symbol SL slot with all DMRS patterns corresponding to the number of PSSCH symbols = {10,7} for slots with and without PSFCH. - *dl-openLoopPC-Sidelink*, which indicates whether UE supports DL pathloss based open loop power control when mode 2 is configured by NR Uu, if the band is indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. This field is only applicable if the UE supports *sl-Reception-r16*. NOTE 1: Random selection in the exceptional pool is supported. NOTE 2: Configuration by NR Uu is not required to be supported in a band indicated with only the PC5 interface in TS 38.101-1 [2] Table 5.2E.1-1. Support of this feature is mandatory if UE supports NR sidelink.	Band	CY	N/A	N/A

sync-Sidelink-r16 Indicates whether UE supports synchronization sources for NR sidelink. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - UE can receive S-SSB in NR sidelink if it supports *sl-Reception-r16*. - UE can transmit S-SSB in NR sidelink if it supports *sl-TransmissionMode1-r16* or *sl-TransmissionMode2-r16*. - UE supports GNSS and SyncRef UE as the synchronization reference according to the synchronization procedure with *sl-SyncPriority* set to *GNSS* and *sl-NbAsSync* set to *false*. - *gNB-Sync*, which indicates whether UE can transmit or receive NR sidelink based on the synchronization to an gNB for NR Uu, if the band is indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. - *gNB-GNSS-UE-SyncWithPriorityOnGNB-ENB*, which indicates whether UE additionally supports gNB, GNSS and SyncRef UE as the synchronization reference according to the synchronization procedure with *sl-SyncPriority* set to *gnbEnb* for NR Uu, if the band is indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. - *gNB-GNSS-UE-SyncWithPriorityOnGNSS*, which indicates whether UE additionally supports gNB, GNSS and SyncRef UE as the synchronization reference according to the synchronization procedure with *sl-SyncPriority* set to *GNSS* and *sl-NbAsSync* set to true for NR Uu, if the band is indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. This field is only applicable if the UE supports at least one of *sl-Reception-r16*, *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*. NOTE: Configuration by NR Uu is not required to be supported in a band indicated with only the PC5 interface in TS 38.101-1 [2] Table 5.2E.1-1. Support of this feature is mandatory if UE supports NR sidelink.	Band	CY	N/A	N/A
congestionControlSidelink-r16 Indicates whether UE supports sidelink congestion control for NR sidelink. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - *cbr-ReportSidelink*, which indicates whether UE can report CBR measurement to gNB when operating in Mode 1 and mode 2, if the band is indicated with only the PC5 interface in TS 38.101-1 [2], Table 5.2E.1-1. Otherwise, it is mandatory. - UE can adjust its radio parameters based on CBR measurement and CRlimit. - *cbr-CR-TimeLimitSidelink*, which indicates the time within which UE can process CBR and CR. Value time1 corresponds to congestion process time of 2, 2, 4, 8 slots for 15, 30, 60, 120 kHz subcarrier spacing, and value time2 corresponds to congestion process time of 2, 4, 8, 16 slots for 15, 30, 60, 120 kHz subcarrier spacing. This field is only applicable if the UE supports *sl-Reception-r16* and at least one of *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*. Support of this feature is mandatory if UE supports NR sidelink.	Band	CY	N/A	N/A
sl-Tx-256QAM-r16 Indicates UE can transmit PSSCH according to the 256QAM MCS table. This field is only applicable if the UE supports at least one of *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*.	Band	No	N/A	FR1 only
sl-Rx-256QAM-r16 Indicates UE can receive PSSCH according to the 256QAM MCS table. This field is only applicable if the UE supports *sl-Reception-r16*.	Band	No	N/A	FR1 only

psfch-FormatZeroSidelink-r16 Indicates whether UE supports PSFCH format 0. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - UE can transmit and receive NR PSFCH format 0. - *psfch-RxNumber* which indicates the number of PSFCH(s) resources that the UE can receive in a slot. Value n5 corresponds to 5, n15 corresponds to 15, and so on. - *psfch-TxNumber* which indicates the number of PSFCH(s) resources that the UE can transmit in a slot. Value n4 corresponds to 4, n8 corresponds to 8, and so on. This field is only applicable if the UE supports at least one of *sl-Reception-r16* and *sl-TransmissionMode2-r16*. NOTE: Configuration by NR Uu is not required to be supported in a band indicated with only the PC5 interface in TS 38.101-1 [2] Table 5.2E.1-1. Support of this feature is mandatory if UE supports NR sidelink.	Band	CY	N/A	N/A
lowSE-64QAM-MCS-TableSidelink-r16 Indicates UE can transmit and receive PSSCH according to the low-spectral efficiency 64QAM MCS table. This field is only applicable if the UE supports at least one of *sl-Reception-r16*, *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*.	Band	No	N/A	N/A
csi-ReportSidelink-r16 Indicates UE supports Sidelink CSI report. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - *csi-RS-PortsSidelink*, which indicates the number of antenna port(s) up to which UE can transmit and receive sidelink CSI-RS with. Value p1 corresponds to 1, and value p2 corresponds to 2. - UE supports RI and CQI feedback on sidelink. This field is only applicable if the UE supports at least one of *sl-Reception-r16*, *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*. Support of this feature is mandatory if UE supports NR sidelink.	Band	CY	N/A	N/A
enb-Sync-Sidelink-r16 Indicates whether UE supports eNB type synchronization source for NR sidelink. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - UE can transmit or receive NR sidelink based on the synchronization to an eNB. - If UE supports *sync-Sidelink-r16*, UE additionally supports eNB, GNSS and SyncRef UE as the synchronization reference according to the synchronization procedure with *sl-SyncPriority* set to *gnbEnb*. - If UE supports *sync-Sidelink-r16*, UE additionally supports eNB, GNSS and SyncRef UE as the synchronization reference according to the synchronization procedure with *sl-SyncPriority* set to *GNSS* and *sl-NbAsSync* set to *true*. This field is only applicable if the UE supports at least one of *sl-Reception-r16*, *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*.	Band	No	N/A	N/A
rankTwoReception-r16 Indicates whether UE supports rank 2 PSSCH reception. This field is only applicable if the UE supports *sl-Reception-r16*.	Band	No	N/A	N/A
fewerSymbolSlotSidelink-r16 Indicates whether UE supports transmission/reception of SL slot configured with 7, 8, 9, 10, 11, 12, 13 consecutive symbols and all the corresponding DMRS patterns in a slot. This field is only applicable if the UE supports at least one of *sl-Reception-r16*, sl-*TransmissionMode1-r16* and *sl-TransmissionMode2-r16*.	Band	No	N/A	N/A

sl-openLoopPC-RSRP-ReportSidelink-r16 Indicates whether UE supports sidelink pathloss based open loop power control and RSRP report in case of unicast. This field is only applicable if the UE supports *sl-Reception-r16* and at least one of *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*. Support of this feature is mandatory if UE supports NR sidelink.	Band	CY	N/A	N/A
ue-PowerClassSidelink-r16 This parameter indicates the supported power class for this band used for sidelink. If the field is absent, the UE supports the default power class in TS 38.101-1 [2], Table 6.2E.1.2-2.	Band	No	N/A	N/A

4.2.16.1.7 *BandCombinationListSidelinkEUTRA-NR* Parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
tx-Sidelink-r16 Indicates whether the UE supports sidelink transmission on the band. For NR sidelink, this field is only applicable if the UE supports at least one of *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16* on the band.	Band	No	N/A	N/A
rx-Sidelink-r16 Indicates whether the UE supports sidelink reception on the band. For NR sidelink, this field is only applicable if the UE supports *sl-Reception-r16* on the band.	Band	No	N/A	N/A
sl-CrossCarrierScheduling-r16 Indicates whether the UE supports monitoring DCI format 3_0 on a different carrier from sidelink for NR sidelink dynamic scheduling and configured grant type 2. If the UE indicates support for *sl-TransmissionMode1-r16* in a band indicated with only the PC5 interface in Table 5.2E.1-1 of TS 38.101-1 [2], the UE shall indicate that *sl-CrossCarrierScheduling-r16* is supported for a band combination with that band. For NR sidelink, this field is only applicable if the UE supports *sl-TransmissionMode1-r16* on the band.	Band	No	N/A	N/A

4.2.16.2 Sidelink Parameters in E-UTRA

Descriptions for parameters	Per	M	FDD-TDD DIFF
supportedBandListSidelinkEUTRA-r16 Indicates E-UTRA frequency bands supported for V2X sidelink communications and parameters supported for each frequency band, as specified in 4.2.16.2.1.	UE	No	No

4.2.16.2.1 *BandSideLinkEUTRA* parameters

Descriptions for parameters	Per	M	FDD-TDD DIFF
gnb-ScheduledMode3SidelinkEUTRA-r16 Indicates whether transmitting V2X sidelink communication mode 3 scheduled by NR Uu is supported. If supported, this parameter indicates the support of the capabilities and includes the parameters as follows: - the UE can be scheduled by gNB using DCI format 3_1 for V2X sidelink mode 3 transmission. - *gnb-ScheduledMode3DelaySidelinkEUTRA*, which indicates the minimum value UE supports for the additional time indicated in the NR DCI scheduling V2X sidelink mode 3. Value ms0 corresponds to 0 ms, ms0dot25 corresponds to 0.25 ms, and so on. This field is only applicable if the UE supports V2X sidelink communication.	Band	No	N/A
gnb-ScheduledMode4SidelinkEUTRA-r16 Indicates whether the UE can be scheduled by gNB for V2X sidelink mode 4 transmission. This field is only applicable if the UE supports V2X sidelink communication.	Band	No	N/A

4.2.17 SON parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
rach-Report-r16 Indicates whether the UE supports delivery of RA report upon request from the network.	UE	No	No	No

4.2.18 UE-based performance measurement parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
barometerMeasReport-r16 Indicates whether the UE supports uncompensated barometeric pressure measurement reporting upon request from the network.	UE	No	No	No
gnss-Location-r16 Indicates whether the UE is equipped with a GNSS or A-GNSS receiver that may be used to provide detailed location information along with SON or MDT related measurements in RRC_CONNECTED, RRC_IDLE and RRC_INACTIVE.	UE	No	No	No
immMeasBT-r16 Indicates whether the UE supports Bluetooth measurements in RRC_CONNECTED state.	UE	No	No	No
immMeasWLAN-r16 Indicates whether the UE supports WLAN measurements in RRC_CONNECTED state.	UE	No	No	No
loggedMeasBT-r16 Indicates whether the UE supports Bluetooth measurements in RRC_IDLE and RRC_INACTIVE state.	UE	No	No	No
loggedMeasurements-r16 Indicates whether the UE supports logged measurements in RRC_IDLE and RRC_INACTIVE state. A UE that supports logged measurements shall support both periodical logging and event-triggered logging. The minimum memory size of MDT logged measurements is 64KB.	UE	No	No	No
loggedMeasWLAN-r16 Indicates whether the UE supports WLAN measurements in RRC_IDLE and RRC_INACTIVE state.	UE	No	No	No
orientationMeasReport-r16 Indicates whether the UE supports orientation information reporting upon request from the network.	UE	No	No	No
speedMeasReport-r16 Indicates whether the UE supports speed information reporting upon request from the network.	UE	No	No	No
ulPDCP-Delay-r16 Indicates whether the UE supports UL PDCP Packet Average Delay measurement (as specified in TS 38.314 [26]) and reporting in RRC_CONNECTED state.	UE	No	No	No

4.2.19 High speed parameters

Definitions for parameters	Per	M	FDD-TDD DIFF	FR1-FR2 DIFF
measurementEnhancement-r16 Indicates whether the UE supports the enhanced intra-NR and inter-RAT E-UTRAN RRM requirements for MN configured measurement enhancement when MR-DC is not configured, and the enhanced intra-NR RRM requirements for SN configured measurement enhancement when (NG)EN-DC is configured, to support high speed up to 500 km/h as specified in TS 38.133 [5].	UE	No	No	FR1 only
demodulationEnhancement-r16 Indicates whether the UE supports the enhanced demodulation processing for HST-SFN joint transmission scheme with velocity up to 500km/h as specified in TS 38.101-4 [18]. This field applies to MN configured demodulation enhancement when MR-DC is not configured and SN configured demodulation enhancement when (NG)EN-DC is configured.	UE	No	No	FR1 only
intraNR-MeasurementEnhancement-r16 Indicates whether the UE supports the enhanced intra-NR RRM requirements to support high speed up to 500 km/h as specified in TS 38.133 [5]. This field applies to MN configured measurement enhancement when MR-DC is not configured and SN configured measurement enhancement when (NG)EN-DC is configured. The UE can include this field only if the UE does not indicate the support of *measurementEnhancement-r16* and *interRAT-MeasurementEnhancement-r16*. Otherwise, the UE does not include this field.	UE	No	No	FR1 only
interRAT-MeasurementEnhancement-r16 Indicates whether the UE supports the enhanced inter-RAT E-UTRAN RRM requirements to support high speed up to 500 km/h as specified in TS 38.133 [5]. This field applies to MN configured measurement enhancement. The UE can include this field only if the UE does not indicate the support of *measurementEnhancement-r16* and *intraNR-MeasurementEnhancement-r16*. Otherwise, the UE does not include this field.	UE	No	No	FR1 only

5 Optional features without UE radio access capability parameters

5.1 PWS features

Definitions for feature
CMAS It is optional for UE to support CMAS reception as specified in TS 38.331 [9]. It is optional for a CMAS-capable UE to support Geofencing information (*warningAreaCoordinates*) as specified in TS 38.331 [9].
ETWS It is optional for UE to support ETWS reception as specified in TS 38.331 [9].
KPAS It is optional for UE to support Korean Public Alert System (KPAS) reception as specified in TS 38.331 [9]. KPAS uses the same AS mechanisms as defined for CMAS. Therefore a KPAS-capable UE shall support all behaviour that is included in TS 38.331 [9] and TS 38.304 [21] for a CMAS-capable UE.
EU-Alert It is optional for UE to support EU-Alert reception as specified in TS 38.331 [9]. EU-Alert uses the same AS mechanisms as defined for CMAS. Therefore a EU-Alert-capable UE shall support all behaviour that is included in TS 38.331 [9] and TS 38.304 [21] for a CMAS-capable UE.

5.2 UE receiver features

Definitions for feature
SU-MIMO Interference Mitigation advanced receiver - R-ML (reduced complexity ML) receivers with enhanced inter-stream interference suppression for SU-MIMO transmissions with rank 2 with 2 RX antennas - R-ML (reduced complexity ML) receivers with enhanced inter-stream interference suppression for SU-MIMO transmissions with rank 2, 3, and 4 with 4 RX antennas UE supporting the feature is required to meet the Enhanced Receiver Type requirements in TS 38.101-4 [18].
MMSE-IRC (Minimum Mean Square Error - Interference Rejection Combining) receiver It is optional for UE to support MMSE-IRC processing for scenarios with inter-cell and intra-cell inter-user interference.

5.3 RRC connection

Definitions for feature
RRC connection release with deprioritisation It is optional for UE to support *RRCRelease* with *deprioritisationReq* as specified in TS 38.331 [9].
RRC connection establishment failure with temporary offset It is optional for UE to support RRC connection establishment failure with temporary offset (*Qoffsettemp*) as specified in TS 38.331 [9].

5.4 Other features

Definitions for feature
Segmentation for UE capability information It is optional for UE to support segmentation of *UECapabilityInformation* as specified in TS 38.331 [9].
eCall over IMS It is optional for UE to support eCall over IMS as specified in TS 38.331 [9].
Access Category 1 selection assistance information enhancement It is optional for UE that is configured for delay tolerant service to support Access Category 1 selection assistance information enhancement, according to *uac-AC1-SelectAssistInfo-r16* as specified in TS 38.331 [9].
Random access prioritization for MPS and MCS It is optional for UE that is configured for MPS or MCS to support random access prioritization for Access Identity 1 or 2 as specified in TS 38.321 [8].

5.5 Sidelink Features

Definitions for feature
Short-term time-scale TDM for in-device coexistence It is optional for UE to support prioritization between LTE sidelink transmission/reception and NR sidelink transmission/reception. This field is only applicable if the UE supports at least one of *sl-Reception-r16*, *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16*, and if the UE supports V2X sidelink communication in the band combination.
Rank 2 PSSCH transmission It is optional for UE to support rank 2 PSSCH transmission. This field is only applicable if the UE supports *csi-ReportSidelink-r16* with *csi-RS-PortsSidelink* = p2.

5.6 RRM measurement features

Definitions for feature
Relaxed measurement It is optional for UE to support relaxed RRM measurements of neighbour cells in RRC_IDLE/RRC_INACTIVE as specified in TS 38.304 [21].

5.7 MDT and SON features

Definitions for feature
Mobility history information storage It is optional for UE to support the storage of mobility history information and the reporting in *UEInformationResponse* message as specified in TS 38.331 [9].
Cross RAT RLF Report It is optional for UE to support the delivery of EUTRA RLF report to an NR node upon request from the network.
Radio Link Failure Report for inter-RAT MRO EUTRA It is optional for UE to support: - Inclusion of EUTRA CGI and associated TAC, if available, and otherwise to include the physical cell identity and carrier frequency of the target PCell of the failed handover as *failedPCellId* in *RLF-Report* upon request from the network as specified in TS 38.331 [9]. - Inclusion of EUTRA CGI and associated TAC as *previousPCellId* in *RLF-Report* as specified in TS 38.331 [9]. - Inclusion of *eutraReconnectCellId* in *reconnectCellId* in the *RLF-Report* as specified in TS 38.331 [9] upon UE has radio link failure or handover failure and successfully re-connected to an E-UTRA cell.

6 Conditionally mandatory features without UE radio access capability parameters

Features	Condition
Skipping UL configured grant if no data to transmit, as specified in release-15 version of TS38.321 [8].	Either *configuredUL-GrantType1* or *configuredUL-GrantType1*-v1650 or *configuredUL-GrantType2* or *configuredUL-GrantType2-v1650* is supported.
Downlink SDAP header	Either NAS reflective QoS or *as-ReflectiveQoS* is supported.
IMS emergency call	It is mandatory to support IMS emergency call for UEs which are IMS voice capable in NR.
MAC subheaders with one-octet eLCID field	It is mandatory to support MAC subheaders with one-octet eLCID field for UEs/IAB-MTs supporting MAC CEs using extended LCID values as specified in TS 38.321 [8].

7 Void

8 UE Capability Constraints

The following table lists constraints indicating the UE capabilities that the UE shall support.

Parameter	Description	Value
#DRBs	The number of DRBs that a UE shall support.	16 per UE. NOTE 1 NOTE 3
#minCellperMeasObjectNR	The minimum number of neighbour cells (excluding black list cells) that a UE shall be able to store associated with a MeasObjectNR.	32 NOTE 2
#minBlackCellRangesperMeasObjectNR	The minimum number of blacklist cell PCI ranges that a UE shall be able to store associated with a MeasObjectNR.	8
#minBlackCellperMeasObjectEUTRA	The minimum number of blacklist cells that a UE shall be able to store associated with a MeasObjectEUTRA.	32
#minCellperMeasObjectEUTRA	The minimum number of neighbour cells that a UE shall be able to store associated with a MeasObjectEUTRA.	32 NOTE 2
#minCellTotal	The minimum number of neighbour cells (excluding black list cells) that UE shall be able to store in total from all measurement objects configured.	256 with counting CSI-RS and SSB as 2.
#maxDeprioritisationFreq	The UE shall be able to store a depriotisation request for up to 8 frequencies (applicable when receiving another frequency specific deprioritisation request via *RRCRelease* before T325 expiry).	8
#minCellperMeasObjectUTRA-FDD	The minimum number of neighbour cells that a UE shall be able to store associated with a MeasObjectUTRA-FDD.	32

NOTE 1: For one MAC entity, the maximum number of DRBs configured with PDCP duplication and with RLC entity(ies) associated with this MAC entity is 8.
NOTE 2: In case of CGI reporting, the limit regarding the cells configured includes the cell for which the UE is requested to report CGI i.e. the amount of neighbour cells that can be included is at most (# minCellperMeasObjectRAT - 1), where RAT represents NR and EUTRA.
NOTE 3: This requirement is applicable in NR SA, NR-DC and NE-DC.

Annex A (normative): Differentiation of capabilities

A.1: TDD/FDD differentiation of capabilities in TDD-FDD CA

Annex A.1 specifies for which TDD and FDD serving cells a UE supporting TDD/FDD CA shall support a feature/capability for which it indicates support within the capability signalling.

A UE that indicates support for TDD/FDD CA (e.g. MCG or SCG):

- For the fields for which the UE is allowed to indicate different support for FDD and TDD, the UE shall support the feature on the PCell and/or SCell(s), as specified in tables A.1-1 in accordance to the following rules:
  - PCell: the UE shall support the feature for the PCell, if the UE indicates support of the feature for the PCell duplex mode;
  - PSCell: the UE shall support the feature for the PSCell, if the UE indicates support of the feature for the PSCell duplex mode;
  - Per serving cell: the UE shall support the feature for a serving cell if the UE indicates support of the feature for the serving cell's duplex mode;
  - All serving cells: UE shall support the feature for all serving cells in a CG if the UE indicates support of the feature for both TDD and FDD duplex modes;
  - Associated serving cells: UE shall support the feature if the UE indicates support of the feature for all associated serving cells's duplex modes;
- For the fields where the UE is not allowed to indicate different support for FDD and TDD, the UE shall support the feature for PCell and SCell(s) if the UE indicates support of the feature via the common capability bit.

Table A.1-1: UE capabilities for which FDD/TDD differentiation is allowed

UE-NR-Capability or UE-MRDC-Capability	Classification
eventA-MeasAndReport	PSCell
dl-SchedulingOffset-PDSCH-TypeA (Note3)	Associated serving cells
dl-SchedulingOffset-PDSCH-TypeB (Note3)	Associated serving cells
dynamicSFI (Note3)	Associated serving cells
handoverInterF	PCell
handoverLTE-EPC	PCell
handoverLTE-5GC	PCell
intraAndInterF-MeasAndReport	PSCell
logicalChannelSR-DelayTimer(Note2)	Associated serving cells
longDRX-Cycle	All serving cells
multipleConfiguredGrants(Note1)	Associated serving cells
multipleSR-Configurations	Per serving cell
secondaryDRX-Group-r16	All serving cells
sftd-MeasNR-Cell	PCell
sftd-MeasNR-Neigh	PCell
sftd-MeasNR-Neigh-DRX	PCell
sftd-MeasPSCell	PCell
sftd-MeasPSCell-NEDC	PCell
shortDRX-Cycle	All serving cells
skipUplinkTxDynamic	Per serving cell
twoDifferentTPC-Loop-PUCCH (Note3)	Associated serving cells
twoDifferentTPC-Loop-PUSCH (Note3)	Associated serving cells
ul-SchedulingOffset (Note3)	Associated serving cells
NOTE 1: The associated serving cells including the serving cell(s) configured with configured grant. NOTE 2: For a given logical channel, the associated serving cells including the PUCCH cell(s) associated with this logical channel (via *schedulingRequestID*). NOTE 3: The associated serving cells including both the cell sending the command and the cell applying the command.	

A.2: FR1/FR2 differentiation of capabilities in FR1-FR2 CA

Annex A.2 specifies for which FR1 and FR2 serving cells a UE supporting FR1/FR2 CA shall support a feature/capability for which it indicates support within the capability signalling.

A UE that indicates support for FR1/FR2 CA (e.g. MCG or SCG):

- For the fields for which the UE is allowed to indicate different support for FR1 and FR2, the UE shall support the feature on the PCell and/or SCell(s), as specified in tables A.2-1 in accordance to the following rules:
  - PCell: the UE shall support the feature for the PCell, if the UE indicates support of the feature for the PCell FR mode;
  - Associated serving cells: UE shall support the feature if the UE indicates support of the feature for associated serving cells's FR modes;
- For the fields where the UE is not allowed to indicate different support for FR1 and FR2, the UE shall support the feature for PCell and SCell(s) if the UE indicates support of the feature via the common capability bit.

Table A.2-1: UE capabilities for which FR1/FR2 differentiation is allowed

UE-NR-Capability	Classification
absoluteTPC-Command (Note2)	Associated serving cells
dl-SchedulingOffset-PDSCH-TypeA (Note2)	Associated serving cells
dl-SchedulingOffset-PDSCH-TypeB (Note2)	Associated serving cells
drx-Adaptation-r16	PCell
dynamicSFI (Note2)	Associated serving cells
handoverInterF	PCell
handoverLTE-EPC	PCell
handoverLTE-5GC	PCell
tpc-PUCCH-RNTI (Note2)	Associated serving cells
tpc-PUSCH-RNTI (Note2)	Associated serving cells
tpc-SRS-RNTI (Note2)	Associated serving cells
twoDifferentTPC-Loop-PUCCH (Note2)	Associated serving cells
twoDifferentTPC-Loop-PUSCH (Note2)	Associated serving cells
ul-SchedulingOffset (Note2)	Associated serving cells
voiceOverNR (Note1)	Associated serving cells.
NOTE 1: For a UE that does not support *lch-ToSCellRestriction* capability, the associated serving cells includes all serving cells in the CG; for a UE that supports *lch-ToSCellRestriction* capability, the associated serving cells includes the serving cells indicated by *allowedServingCells* for the LCH. NOTE 2: The associated serving cells including both the cell sending the command and the cell applying the command.	

A.3: TDD/FDD differentiation of capabilities for sidelink

Annex A.3 specifies for which TDD and FDD serving cells for Uu interface and carrier for PC5 interface a UE supporting sidelink shall support a feature/capability for which it indicates support within the capability signalling.

A UE that indicates support for sidelink:

- For the fields for which the UE is allowed to indicate different support for FDD and TDD, the UE shall support the feature on the PCell and/or SCell(s) for Uu interface, as specified in tables A.3-1 in accordance to the following rules:
  - Per serving cell: the UE shall support the feature for a serving cell if the UE indicates support of the feature for the serving cell's duplex mode;
  - Associated serving cells: UE shall support the feature if the UE indicates support of the feature for all associated serving cells's duplex modes;
- For the fields where the UE is not allowed to indicate different support for FDD and TDD, the UE shall support the feature for PCell and SCell(s) for Uu interface and carrier for PC5 interface if the UE indicates support of the feature via the common capability bit.

Table A.3-1: Rel-16 UE capabilities for which FDD/TDD differentiation is allowed

Sidelink Parameter	Classification
logicalChannelSR-DelayTimerSidelink(Note1)	Associated serving cells
multipleSR-ConfigurationsSidelink	Per serving cell
NOTE 1: For a given logical channel, the associated serving cells including the PUCCH cell(s) associated with this logical channel (via *schedulingRequestID*).	

A.4: Sidelink capabilities applicable to Uu and PC5

Annex A.4 specifies for each sidelink related capability, in which interface (i.e., *UECapabilityInformation* in Uu RRC and *UECapabilityInformation*Sidelink in PC5 RRC) a UE supporting sidelink shall report the concerned capability:

- *UECapabilityInformation*: the concerned sidelink capability is reported within *UECapabilityInformation*;
- *UECapabilityInformationSidelink*: the concerned sidelink capability is reported within *UECapabilityInformationSidelink;*

Table A.4-1: Sidelink capability reported in *UECapabilityInformation/ UECapabilityInformationSidelink*

Sidelink Parameter	*UECapabilityInformation*	*UECapabilityInformationSidelink*
accessStratumReleaseSidelink		X
outOfOrderDeliverySidelink		X
am-WithLongSN-Sidelink	X	X
um-WithLongSN-Sidelink	X	X
lcp-RestrictionSidelink	X	
logicalChannelSR-DelayTimerSidelink	X	
multipleSR-ConfigurationsSidelink	X	
multipleConfiguredGrantsSidelink	X	
supportedBandCombinationListSidelinkEUTRA-NR	X	
supportedBandCombinationListSidelinkNR		X
gnb-ScheduledMode3SidelinkEUTRA	X	
gnb-ScheduledMode4SidelinkEUTRA	X	
sl-Reception	X	X
sl-TransmissionMode1	X	
sl-TransmissionMode2	X	
sync-Sidelink	X	
congestionControlSidelink	X	
sl-Tx-256QAM	X	X
sl-Rx-256QAM	X	X
psfch-FormatZeroSidelink	X	
lowSE-64QAM-MCS-TableSidelink	X	X
csi-ReportSidelink		X
enb-sync-Sidelink	X	
rankTwoReception		X
fewerSymbolSlotSidelink	X	
sl-openLoopPC-RSRP-ReportSidelink	X	X
tx-Sidelink	X	
rx-Sidelink	X	
ue-PowerClassSidelink	X	

A.5: General differentiation of capabilities in Cross-Carrier operation

Annex A.5 specifies for which multiple serving cells a UE supporting cross-carrier operation shall support a feature/capability for which it indicates support within the capability signalling.

A UE that indicates support for cross-carrier operation in CA (e.g. MCG or SCG):

- For the fields for which the UE is allowed to indicate different support for different bands, the UE shall support the feature on the PCell and/or SCell(s) in cross-carrier operation, as specified in table A.5-1 in accordance to the following rules:
  - Triggered serving cell: the UE shall support the feature if the UE indicates support of the feature for the band of the scheduled/triggered/indicated serving cell;
  - Triggering&Triggered serving cells: UE shall support the feature if the UE indicates support of the feature for the band of both the scheduling/triggering/indicating serving cell and the scheduled/triggered/indicated serving cell;

Table A.5-1: General UE capabilities for which differentiation is allowed

UE-NR-Capability	Classification
activeConfiguredGrant-r16	Triggered serving cell
aperiodicTRS	Triggered serving cell
beamSwitchTiming, beamSwitchTiming-r16	Triggered serving cell
bwp-DiffNumerology (NOTE 1)	Triggering&Triggered serving cells
bwp-SameNumerology (NOTE 1)	Triggering&Triggered serving cells
crossCarrierScheduling-SameSCS	Triggering&Triggered serving cells
crossCarrierSchedulingProcessing-DiffSCS-r16 (NOTE 2)	Triggering&Triggered serving cells
dynamicSFI-r16	Triggering&Triggered serving cells
jointReleaseConfiguredGrantType2-r16	Triggered serving cell
jointReleaseSPS-r16	Triggered serving cell
pdcch-MonitoringAnyOccasionsWithSpanGap (NOTE 3)	Triggering&Triggered serving cells
sps-r16	Triggered serving cell
ue-SpecificUL-DL-Assignment	Triggering&Triggered serving cells
ul-CancellationCrossCarrier-r16	Triggering&Triggered serving cells

NOTE 1: For *bwp-DiffNumerology* and *bwp-SameNumerology*, the supported number of BWPs for each band is still based on the indicated number for this band regardless of whether it is a scheduling cell or scheduled cell.

NOTE 2: For *crossCarrierSchedulingProcessing-DiffSCS-r16*, if reported value is different between the band of the scheduled/triggered/indicated cell and the band of the scheduling/triggering/indicating cell, the value reported for the scheduling/triggering/indicating cell is applied.

NOTE 3: Applicable for cross carrier scheduling with the same SCS in the scheduling cell and the scheduled cell. If the reported value is different between the band of the scheduled/triggered/indicated cell and the band of the scheduling/triggering/indicating cell, the value reported for the scheduling/triggering/indicating cell is applied.

Annex B (informative): UE capability indication for UE capabilities with both FDD/TDD and FR1/FR2 differentiations

Annex B clarifies the UE capability indication for the case where the UE is allowed to support different functionality between FDD and TDD, and between FR1 and FR2. Table B-1 clarifies the setting of UE capability fields for cases where the UE supports the corresponding feature in different combinations of duplex mode and frequency range. There are two possible ways of UE capability indication in Case 3 and Case 8.

Table B-1: UE capability indication for UE capabilities with both FDD/TDD and FR1/FR2 differentiations

Support for the feature		Setting of UE capability fields					
		Common UE capability (with suffix '-XDD-Diff')	Common UE capability (with suffix '-FRX-diff')	fdd-Add-UE-NR/MRDC-Capabilities	tdd-Add-UE-NR/MRDC-Capabilities	fr1-Add-UE-NR/MRDC-Capabilities	fr2-Add-UE-NR/MRDC-Capabilities
Case 1	FR1 FDD: 'supported' FR1 TDD: 'supported' FR2 TDD: 'supported'	Included	Included	Not included	Not included	Not included	Not included
Case 2	FR1 FDD: 'not supported' FR1 TDD: 'not supported' FR2 TDD: 'not supported'	Not included	Not included	Not included	Not included	Not included	Not included
Case 3	FR1 FDD: 'not supported' FR1 TDD: 'supported' FR2 TDD: 'supported'	Not included	Included	Not included	Included	Not included	Not included
		Not included	Not included	Not included	Included	Not included	Not included
Case 4	FR1 FDD: 'not supported' FR1 TDD: 'not supported' FR2 TDD: 'supported'	Not included	Not included	Not included	Included	Not included	Included
Case 5	FR1 FDD: 'not supported' FR1 TDD: 'supported' FR2 TDD: 'not supported'	Not included	Not included	Not included	Included	Included	Not included
Case 6	FR1 FDD: 'supported' FR1 TDD: 'not supported' FR2 TDD: 'supported'	The current UE capability signalling does not support the UE capability indication for this case.					
Case 7	FR1 FDD: 'supported' FR1 TDD: 'not supported' FR2 TDD: 'not supported'	Not included	Not included	Included	Not included	Included	Not included
Case 8	FR1 FDD: 'supported' FR1 TDD: 'supported' FR2 TDD: 'not supported'	Included	Not included	Not included	Not included	Included	Not included
		Not included	Not included	Not included	Not included	Included	Not included

Annex C (informative): Change history

Change history							
Date	**Meeting**	**TDoc**	**CR**	**Rev**	**Cat**	**Subject/Comment**	**New version**
06/2017	RAN2#98	R2-1704810				First version	0.0.1
06/2017	RAN2#NR2	R2-1707386					0.0.2
08/2017	RAN2#99	R2-1708750					0.0.3
12/2017	RAN2#100	R2-1712587					0.0.4
12/2017	RAN2#100	R2-1714141					0.0.5
12/2017	RAN2#100	R2-1714271					0.1.0
12/2017	RP-78	RP-172521				Submitted to RAN#78 for approval	1.0.0
12/2017	RP-78					Upgraded to Rel-15	15.0.0
03/2018	RP-79	RP-180440	0003	3	F	Updates on UE capabilities	15.1.0
06/2018	RP-80	RP-181216	0009	2	B	Introduce ANR in NR	15.2.0
	RP-80	RP-181216	0012	1	F	Miscellaneous corrections	15.2.0
	RP-80	RP-181216	0013	-	B	Delay budget report and MAC CE adaptation for NR for TS 38.306	15.2.0
09/2018	RP-81	RP-181940	0008	4	F	Correction on total layer2 buffer size	15.3.0
	RP-81	RP-181942	0024	1	F	Introduction of UE capability constraints	15.3.0
	RP-81	RP-181942	0030	-	F	38.306 corrections and cleanup	15.3.0
12/2018	RP-82	RP-182651	0016	4	F	Clarification for Interruption-based and gap-based SFTD measurement	15.4.0
	RP-82	RP-182653	0033	1	F	Timer based BWP switching	15.4.0
	RP-82	RP-182652	0035	2	F	Additional UE capabilities for NR standalone	15.4.0
	RP-82	RP-182651	0037	1	F	Clarification to UE capability of independentGapConfig for inter-RAT NR measurement not yet configured with EN-DC	15.4.0
	RP-82	RP-182661	0038	2	F	Update of L2 capability parameters	15.4.0
	RP-82	RP-182660	0047	2	F	Clarification on physical layer parameters of UE capability	15.4.0
	RP-82	RP-182666	0050	3	F	Introduce RRC buffer size in NR	15.4.0
	RP-82	RP-182664	0051	2	F	Clarification of multipleConfiguredGrants	15.4.0
	RP-82	RP-182664	0052	2	F	CR to 38.306 for PDCP CA duplication for SRB	15.4.0
	RP-82	RP-182661	0054	1	F	UE capability handling for FDD/TDD and FR1/FR2	15.4.0
	RP-82	RP-182663	0057	1	F	Clarify for per CC UL/DL modulation order capabilities	15.4.0
	RP-82	RP-182664	0058	1	F	Inter-frequency handover capability	15.4.0
	RP-82	RP-182665	0060	3	F	UE capability on PA architecture	15.4.0
	RP-82	RP-182661	0062	1	F	CR on signaling contiguous and non-contiguous EN-DC capability	15.4.0
	RP-82	RP-182813	0063	6	F	Update of UE capabilities	15.4.0
	RP-82	RP-182662	0065	2	F	Introduction of SRS switching capability	15.4.0
	RP-82	RP-182667	0068	2	B	CR on introduction of UE overheating support in NR SA scenario	15.4.0
	RP-82	RP-182664	0071	-	F	Introduction of SRS switching capability	15.4.0
03/2019	RP-83	RP-190634	0073	1	F	Capability for aperiodic CSI-RS triggering with different numerology between PDCCH and CSI-RS	15.5.0
	RP-83	RP-190542	0074	1	F	Layer-1 capability update	15.5.0
	RP-83	RP-190545	0075	2	F	CR to 38.306 on introducing nr-CGI-Reporting-ENDC	15.5.0

	RP-83	RP-190545	0086	2	F	CR to clarify intra-NR handover capabilities	15.5.0
	RP-83	RP-190546	0088	3	F	Clarification for PDSCHs and PUSCHs per slot for different TBs for UE capable of processing time capability 1	15.5.0
	RP-83	RP-190542	0092	2	F	Correction to mandatory supported capability signaling	15.5.0
	RP-83	RP-190542	0097	2	F	Miscellaneous corrections	15.5.0
	RP-83	RP-190545	0098	2	F	Correction on supportedBandwidthCombinationSetEUTRA-v1530 usage	15.5.0
	RP-83	RP-190543	0099	-	F	Clarification on signaling the bandwidth class	15.5.0
	RP-83	RP-190545	0100	1	F	Clarification on Frequency Separation Class	15.5.0
	RP-83	RP-190544	0101	-	F	CR on Processing delay requirements for RRC Resume procedures in TS 38.306	15.5.0
06/2019	RP-84	RP-191375	0094	1	F	CR to clarify ul-TimingAlignmentEUTRA-NR	15.6.0
	RP-84	RP-191373	0108	-	F	Layer-1, RF and RRM capability updates	15.6.0
	RP-84	RP-191373	0109	-	F	Clarification on UE capability of lch-ToSCellRestriction	15.6.0
	RP-84	RP-191379	0110	2	F	Correction on description of additionalActiveSpatialRelationPUCCH	15.6.0
	RP-84	RP-191378	0111	1	F	Clarification on csi-RS-CFRA-ForHO	15.6.0
	RP-84	RP-191379	0114	2	F	CR on capability of maxUplinkDutyCycle for FR2	15.6.0
	RP-84	RP-191380	0115	2	F	38.306 miscellaneous corrections	15.6.0
	RP-84	RP-191378	0116	1	B	38.306 CR for late drop	15.6.0
	RP-84	RP-191381	0118	4	F	Clarification on supported modulation order capability	15.6.0
	RP-84	RP-191374	0119	-	F	Correction to PDCP parameters	15.6.0
	RP-84	RP-191381	0121	3	F	Corrections to UE Capability definitions	15.6.0
	RP-84	RP-191378	0122	1	F	38.306 Clarification on multiple TA capabilities	15.6.0
	RP-84	RP-191379	0123	2	F	CR to clarify non-codebook based PUSCH transmission	15.6.0
	RP-84	RP-191380	0124	3	F	Clarification on pdsch-ProcessingType2	15.6.0
	RP-84	RP-191378	0125	1	F	Clarification on present of tci-StatePDSCH	15.6.0
	RP-84	RP-191378	0126	1	F	Clarification on SA fallback BC support	15.6.0
	RP-84	RP-191375	0128	-	F	Correction to Beam Correspondence for CA	15.6.0
	RP-84	RP-191379	0130	2	F	Correction on the number of DRB in UE Capability Constraints	15.6.0
	RP-84	RP-191379	0132	1	F	CR to capture UE supported DL/UL bandwidths	15.6.0
	RP-84	RP-191376	0133	-	F	UE capability signalling for FD-MIMO processing capabilities for EN-DC	15.6.0
	RP-84	RP-191376	0134	-	F	Modified UE capability on different numerologies within the same PUCCH group	15.6.0
	RP-84	RP-191554	0135	-	F	Removal of "Capability for aperiodic CSI-RS triggering with different numerology between PDCCH and CSI-RS"	15.6.0
09/2019	RP-85	RP-192196	0136	1	C	Additional capability signalling for 1024QAM support	15.7.0
	RP-85	RP-192191	0142	1	B	Introduction of SFTD measurement to neighbour cells for NR SA	15.7.0
	RP-85	RP-192193	0146	1	F	MR-DC measurement gap pattern capability	15.7.0
	RP-85	RP-192194	0151	3	F	Clarifying UE capability freqHoppingPUCCH-F0-2 and freqHoppingPUCCH-F1-3-4	15.7.0
	RP-85	RP-192190	0152	-	F	Clarification to dynamic power sharing capability	15.7.0
	RP-85	RP-192192	0153	2	F	Miscellaneous corrections	15.7.0
	RP-85	RP-192190	0154	-	F	Capability of measurement gap patterns	15.7.0
	RP-85	RP-192193	0155	2	F	Correction to IMS capability	15.7.0
	RP-85	RP-192194	0156	3	F	UE Capabilities covering across all serving cells	15.7.0

	RP-85	RP-192190	0167	-	F	Clarification on UE capability on different numerologies within the same PUCCH group	15.7.0
	RP-85	RP-192193	0168	1	F	Correction on CA parameters in NR-DC	15.7.0
	RP-85	RP-192346	0169	-	C	Introduction of UE capability for NR-DC with SFN synchronization between PCell and PSCell	15.7.0
12/2019	RP-86	RP-192934	0185	1	F	Clarification on the restriction of maximum SRS resource sets configuration for uplink beam management.	15.8.0
	RP-86	RP-192936	0186	3	F	Miscellaneous corrections on UE capability fields	15.8.0
	RP-86	RP-192935	0191	1	F	Corrections on PDCCH blind decoding in NR-DC	15.8.0
	RP-86	RP-192937	0200	1	F	Clarification on ne-DC capability	15.8.0
	RP-86	RP-192935	0202	1	F	Correction to channelBWs	15.8.0
	RP-86	RP-192936	0204	1	F	Use of splitSRB-WithOneUL-Path capability (38.306)	15.8.0
	RP-86	RP-192935	0205	-	F	Correction to pdsch-RepetitionMultiSlots and pusch-RepetitionMultiSlots	15.8.0
	RP-86	RP-192937	0215	1	F	Correction on initial BWP bandwidth capabilities	15.8.0
	RP-86	RP-192937	0216	1	F	NE-DC dynamic power sharing capability	15.8.0
	RP-86	RP-192935	0219	-	F	Clarification on crossCarrierScheduling-OtherSCS in R15	15.8.0
	RP-86	RP-192937	0220	-	F	Correction on ambiguity of UE FDD/TDD FR1/FR2 capabilities	15.8.0
03/2020	RP-87	RP-200334	0194	2	F	Correction on parameter description of beamManagementSSB-CSI-RS	15.9.0
	RP-87	RP-200335	0208	3	F	CR on BWCS for inter-ENDC BC with intra-ENDC BC (38.306)	15.9.0
	RP-87	RP-200335	0209	5	F	CR to 38.306 on support of 70MHz channel bandwidth	15.9.0
	RP-87	RP-200334	0236	-	F	Correction on SRB capability in NR-DC	15.9.0
	RP-87	RP-200335	0248	2	F	Data rate for the case of single carrier standalone operation	15.9.0
	RP-87	RP-200334	0254	1	F	CR on the maximum stored number of deprioritisation frequencies	15.9.0
	RP-87	RP-200335	0255	2	F	Miscellaneous Corrections to UE capability parameters	15.9.0
	RP-87	RP-200335	0259	1	F	UE capability of intra-band requirements for inter-band EN-DC/NE-DC	15.9.0
03/2020	RP-87	RP-200356	0145	1	F	CR on capability of maxUplinkDutyCycle for inter-band EN-DC PC2 UE	16.0.0
	RP-87	RP-200335	0214	2	F	Correction on beamSwitchTiming values of 224 and 336	16.0.0
	RP-87	RP-200335	0223	1	C	Inclusion of 90MHz UE Bandwidth	16.0.0
	RP-87	RP-200358	0226	2	B	Introducing autonomous gap in CGI reporting	16.0.0
	RP-87	RP-200357	0229	-	B	UE capability for IDC	16.0.0
	RP-87	RP-200340	0230	-	B	Introduction of Cross Link Interference (CLI) handling and Remote Interference Management (RIM)	16.0.0
	RP-87	RP-200358	0233	1	C	Introduction of EPS voice fallback enhancement	16.0.0
	RP-87	RP-200350	0235	-	B	Introduction of SRVCC from 5G to 3G	16.0.0
	RP-87	RP-200358	0243	1	B	Introduction of DL RRC segmentation	16.0.0
	RP-87	RP-200358	0258	1	B	Introduction of downgraded configuration for SRS antenna switching	16.0.0
	RP-87	RP-200359	0260	-	B	Recommended Bit Rate/Query for FLUS and MTSI	16.0.0
	RP-87	RP-200358	0261	-	B	Introduction of UE capability indicator of supporting inter-RAT handover from NR to EN-DC in 38.306.	16.0.0
07/2020	RP-88	RP-201163	0288	2	A	Correction to the serving cell number for ENDC power class	16.1.0
	RP-88	RP-201187	0289	3	A	CR on introduction of BCS to asymmetric channel bandwidths (38.306)	16.1.0
	RP-88	RP-201160	0295	1	A	SRS Capability report for SRS only Scell	16.1.0
	RP-88	RP-201159	0299	-	A	Clarification on L1 feature of NGEN-DC and NE-DC	16.1.0
	RP-88	RP-201161	0304	2	A	Default values for UE capability	16.1.0

	RP-88	RP-201163	0312	1	A	Invalidating bandwidth class F for FR1	16.1.0
	RP-88	RP-201163	0318	1	A	Missing "Optional features without UE radio access capability parameters"	16.1.0
	RP-88	RP-201163	0320	1	A	Missing UE capability requirements	16.1.0
	RP-88	RP-201198	0321	1	C	Introduction of secondary DRX group CR 38.306	16.1.0
	RP-88	RP-201164	0324	2	A	Correction on UE capability constraints	16.1.0
	RP-88	RP-201183	0328	2	B	UE capability of supporting UL Tx switching	16.1.0
	RP-88	RP-201217	0329	2	B	Release-16 UE capabilities based on RAN1, RAN4 feature lists and RAN2	16.1.0
	RP-88	RP-201163	0330	1	A	Corrections on the number of DRBs	16.1.0
	RP-88	RP-201166	0333	1	F	On the capability of Basic CSI feedback (2-32)	16.1.0
	RP-88	RP-201162	0339	1	A	Clarification on the support of IMS voice over split bearer for NR-DC and NE-DC	16.1.0
	RP-88	RP-201162	0343	1	A	Clarification on maximum number of supported PDSCH Resource Element mapping patterns	16.1.0
	RP-88	RP-201164	0344	2	A	Introduction of CGI reporting capabilities	16.1.0
	RP-88	RP-201165	0346	2	A	UE Capability Enhancement for FR1(TDD/FDD) / FR2 CA and DC	16.1.0
	RP-88	RP-201161	0353	-	A	CR on unnecessary XDD FRX differentiation	16.1.0
	RP-88	RP-201162	0355	-	A	Clarification to maxUplinkDutyCycle-FR2	16.1.0
	RP-88	RP-201162	0357	-	A	Clarification on L2 and RAN4 feature of NGEN-DC and NE-DC	16.1.0
	RP-88	RP-201163	0360	1	A	Correction on UE capability signalling for simultaneous SRS antenna and carrier switching	16.1.0
	RP-88	RP-201163	0362	-	A	Correction on UE capabilities with xDD and FRx differentiations	16.1.0
	RP-88	RP-201166	0363	-	C	Missing reportAddNeighMeas in periodic measurement reporting	16.1.0
09/2020	RP-89	RP-201932	0370	2	B	Release-16 UE capabilities based on RAN1, RAN4 feature lists and RAN2 corrections	16.2.0
	RP-89	RP-201938	0378	1	A	Corrections on UE capability constraints	16.2.0
	RP-89	RP-201932	0382	1	F	Correction on beamSwitchTiming values of 224 and 336	16.2.0
	RP-89	RP-201924	0383	2	F	Update to IAB-MT capabilities	16.2.0
	RP-89	RP-201937	0387	1	F	Clarification on PDSCH rate-matching capabilities	16.2.0
	RP-89	RP-201937	0389	2	A	Corrections on the capabilities associated with multiple bands/Cells	16.2.0
	RP-89	RP-201989	0393	2	F	Correction on PRS measurement gap capability	16.2.0
	RP-89	RP-201938	0402	2	F	Clarification on the extended capability of NGEN-DC	16.2.0
	RP-89	RP-201962	0407	1	F	Miscellaneous corrections on UL Tx switching	16.2.0
	RP-89	RP-201922	0408	-	F	NR-DC UE capabilities	16.2.0
12/2020	RP-90	RP-202790	0419	2	A	CR to clarify UE capability in case of Cross-Carrier operation	16.3.0
	RP-90	RP-202778	0422	1	B	Release-16 UE capabilities based on RAN1, RAN4 feature lists and RAN2 corrections	16.3.0
	RP-90	RP-202767	0424	3	F	Correction on description for extendedRAR-Window	16.3.0
	RP-90	RP-202789	0439	1	F	Clarification on the inter-frequency handover capability	16.3.0
	RP-90	RP-202789	0441	-	A	Clarification on NE-DC for bandwidth combination set	16.3.0
	RP-90	RP-202790	0453	1	A	Removing contradiction on number of FSpUCC and FSpDCC	16.3.0
	RP-90	RP-202789	0461	-	F	Clarification on UE capabilities with FDD/TDD differentiation	16.3.0
	RP-90	RP-202771	0472	4	F	Introduction of capability bit for multi-CC simultaneous TCI activation with multi-TRP	16.3.0
	RP-90	RP-202770	0476	-	A	Dummify UE capability of crossCarrierScheduling-OtherSCS	16.3.0
	RP-90	RP-202789	0479	1	A	Clarification for multipleCORESET	16.3.0

	RP-90	RP-202882	0481	-	A	CR to 38.306 on handling of fallbacks for FR2 CA	16.3.0
03/2021	RP-91	RP-210689	0482	-	F	Update on V2X UE capability	16.4.0
	RP-91	RP-210693	0483	1	F	CR for the supported max date rate for uplink Tx switching	16.4.0
	RP-91	RP-210697	0485	-	F	UE capability of NR to UTRA-FDD CELL_DCH CS handover	16.4.0
	RP-91	RP-210697	0489	2	A	Correction on beamSwitchTiming capability	16.4.0
	RP-91	RP-210697	0490	1	F	Correction on beamSwitchTiming-r16 capability	16.4.0
	RP-91	RP-210697	0491	1	F	Correction on TPMI grouping capability	16.4.0
	RP-91	RP-210692	0501	-	F	Dummifying intraFreqMultiUL-TransmissionDAPS-r16 capability	16.4.0
	RP-91	RP-210694	0502	1	F	Corrections on UE capability for NR-U	16.4.0
	RP-91	RP-210703	0503	2	F	Release with Redirect for connection resume triggered by NAS	16.4.0
	RP-91	RP-210703	0505	2	A	Clarification to LCP restrictions	16.4.0
	RP-91	RP-210691	0506	1	F	Introduction of the UE Capability for SpCell BFR Enhancement	16.4.0
	RP-91	RP-210697	0509	2	F	Clarification on UE capabilities with FDD/TDD differentiation	16.4.0
	RP-91	RP-210805	0512	3	B	Support of 35 MHz and 45 MHz channel bandwidth for FR1	16.4.0
	RP-91	RP-210697	0513	1	F	Clarification on UE capabilities for enhanced MIMO	16.4.0
	RP-91	RP-210703	0516	2	A	CR on the SupportedBandwidth and channelBWs(R16)	16.4.0
	RP-91	RP-210695	0520	2	F	Correction to PUSCH skipping with UCI without LCH-based prioritization	16.4.0
	RP-91	RP-210697	0521	1	F	CR on the Capability of PUCCH Transmissions for HARQ-ACK-38306	16.4.0
	RP-91	RP-210703	0523	2	F	Clarfication on FDD-TDD differentiation for SUL band	16.4.0
	RP-91	RP-210702	0525	1	A	Clarification on single uplink operation capability report	16.4.0
	RP-91	RP-210697	0528	-	F	Addition of TEI16 features	16.4.0
	RP-91	RP-210702	0529	-	A	CR to clarify the definition of fallback per CC feature set	16.4.0
	RP-91	RP-210697	0530	-	F	Capability for dormant BWP switching of multiple SCells	16.4.0
	RP-91	RP-210702	0533	-	A	Dummy the capability bit v2x-EUTRA	16.4.0
	RP-91	RP-210703	0534	2	A	Clarification on the capability of supportedNumberTAG	16.4.0
	RP-91	RP-210701	0537	1	A	Clarification on the supportedBandwidthCombinationSetIntraENDC capability	16.4.0
	RP-91	RP-210697	0538	-	B	Release-16 UE capabilities based on updated RAN1 and RAN4 feature lists	16.4.0
	RP-91	RP-210693	0539	-	B	Uplink Tx DC location reporting for two carrier uplink CA	16.4.0
06/2021	RP-92	RP-211487	0526	5	C	Redirection with MPS Indication [Redirect_MPS_I]	16.5.0
	RP-92	RP-211480	0541	4	F	Miscellaneous corrections to Rel-16 UE capabilities	16.5.0
	RP-92	RP-211475	0542	3	F	Correction on Capability of two PUCCH transmission	16.5.0
	RP-92	RP-211470	0543	3	F	Correction on V2X UE capability	16.5.0
	RP-92	RP-211483	0545	2	A	CR on UE capability in case of Cross-Carrier operation	16.5.0
	RP-92	RP-211470	0547	2	F	Addition of total L2 buffer size and RLC RTT for NR SL	16.5.0
	RP-92	RP-211483	0550	2	A	Correction to BWP capabilities	16.5.0
	RP-92	RP-211482	0566	2	A	CR on the supportedBandwidthCombinationSet-R16	16.5.0
	RP-92	RP-211477	0568	3	A	CR on the 35M45M supporting-R16	16.5.0
	RP-92	RP-211484	0571	2	F	UL Config Grant capability differentiation for FR1(TDD/FDD) / FR2	16.5.0
	RP-92	RP-211474	0572	2	F	Corrections on the UE capability of indication on supporting the extension of SRS resourceID	16.5.0
	RP-92	RP-211478	0573	3	B	Release-16 UE capabilities based on RAN1 and RAN4 feature lists	16.5.0
	RP-92	RP-211480	0575	3	F	Corrections to directional collision handling in half-duplex operation	16.5.0
	RP-92	RP-211478	0578	1	F	Introduction of the intra-NR and inter-RAT HST Capabilities	16.5.0

	RP-92	RP-211483	0594	-	A	Correction to the use of simultaneous CSI-RS resources	16.5.0
	RP-92	RP-211478	0596	1	A	Clarification on BCS of a fallback band combination	16.5.0
	RP-92	RP-211478	0599	1	A	Further clarification on supportedNumberTAG	16.5.0
	RP-92	RP-211478	0608	1	A	Clarification on maximum number of TCI-state for PDSCH	16.5.0
	RP-92	RP-211475	0609	-	F	Capability bit for extending search space switching trigger configuration	16.5.0
	RP-92	RP-211471	0610	1	C	NR-DC Cell Group capability filtering	16.5.0
09/2021	RP-93	RP-212439	0518	4	A	CR on the Intra-band and Inter-band EN-DC Capabilities -R16	16.6.0
	RP-93	RP-212439	0562	3	A	Clarification on the simultaneousRxTxInterBandCA capability in NR-DC	16.6.0
	RP-93	RP-212438	0613	1	A	Correction to the description of additionalActiveTCI-StatePDCCH	16.6.0
	RP-93	RP-212439	0619	1	A	Definition of fallback per CC feature set	16.6.0
	RP-93	RP-212443	0626	1	F	Miscellaneous corrections to UE capability descriptions	16.6.0
	RP-93	RP-212439	0631	1	A	Support of newly introduced 100M bandwidth for band n40	16.6.0
	RP-93	RP-212438	0633	-	A	Correction on fallback band combination for SUL	16.6.0
	RP-93	RP-212440	0641	-	F	FR1/FR2 differentiation for enhanced UL grant skipping capabilities	16.6.0
	RP-93	RP-212597	0643	2	C	Distinguishing support of extended band n77	16.6.0
12/2021	RP-94	RP-213341	0640	2	A	Simultaneous Rx/Tx UE capability per band pair	16.7.0
	RP-94	RP-213344	0645	2	F	Updates based on RAN1 NR positioning features list	16.7.0
	RP-94	RP-213342	0646	1	C	Duty cycle signalling for power class 1.5	16.7.0
	RP-94	RP-213343	0647	1	F	Correction on R16 UE capability of supportedSINR-meas-r16	16.7.0
	RP-94	RP-213341	0656	1	A	Clarification on intraAndInterF-MeasAndReport capability	16.7.0
	RP-94	RP-213341	0658	-	A	Miscellaneous corrections for Rel-15 UE capabilities	16.7.0
	RP-94	RP-213346	0659	-	F	Miscellaneous corrections for Rel-16 UE capabilities	16.7.0
	RP-94	RP-213345	0660	1	C	CR on 38.306 for introducing UE capability of txDiversity	16.7.0
	RP-94	RP-213346	0661	1	F	Clarification on UL MIMO layer reporting for 1Tx-2Tx switching	16.7.0
	RP-94	RP-213346	0664	-	F	Correction on two HARQ-ACK codebooks capability	16.7.0
03/2022	RP-95	RP-220835	0635	3	F	Adding UE capability of UL MIMO coherence for UL Tx switching	16.8.0
	RP-95	RP-220473	0677	1	F	Correction on DAPS capability	16.8.0
	RP-95	RP-220473	0688	1	F	Introduction of sidelink power class capability indication	16.8.0
	RP-95	RP-220473	0695	1	F	Correction on ssb-csirs-SINR-measurement-r16 capability	16.8.0
06/2022	RP-96	RP-221756	0704	1	F	Correction to multi-DCI multi-TRP and new UE capability to limit PDCCH monitoring	16.9.0
	RP-96	RP-221756	0709	1	A	Clarification on simultaneous Rx/Tx capability per band pair	16.9.0
	RP-96	RP-221756	0717	1	F	Correction on the UE capability description of the overlapping PDSCH	16.9.0
	RP-96	RP-221756	0730	1	B	Adding UE capability of CSI reporting cross PUCCH SCell group	16.9.0
	RP-96	RP-221756	0732	1	F	Clarification on miscellaneous UE capabilities	16.9.0
	RP-96	RP-221756	0735	-	A	bwp-SwitchingDelay conditionally mandatory capability	16.9.0
	RP-96	RP-221756	0736	1	F	Clarification on configuredUL-GrantType1-v1650	16.9.0
	RP-96	RP-221756	0740	1	F	Clarification on the applicability of mixed numerology on UE capability maxNumberCSI-RS-RRM-RS-SINR	16.9.0
	RP-96	RP-221756	0749	-	C	Introduction of uplink RRC Segmentation capability	16.9.0
	RP-96	RP-221791	0755	2	F	HARQ-ACK multiplexing on PUSCH in the absence of PUCCH	16.9.0
09/2022	RP-97	RP-222519	0760	1	F	Clarification on power sharing UE capability	16.10.0
	RP-97	RP-222516	0776	1	A	CR to TS 38.306 on UE capability of MMSE-IRC receiver	16.10.0
	RP-97	RP-222521	0780	1	F	Correction for the capability of SRS-PeriodicityAndOffset	16.10.0

	RP-97	RP-222519	0787	1	F	Correction on crossCarrierA-CSI-trigDiffSCS-r16 (38.306)	16.10.0
	RP-97	RP-222520	0789	1	F	Correction on PDCCH blind detection capability in CA	16.10.0
	RP-97	RP-222520	0791	1	F	Clarification on pusch-RepetitionTypeA-r16 capability	16.10.0
	RP-97	RP-222518	0797	3	F	Correction on sidelink capability	16.10.0
	RP-97	RP-222527	0801	-	F	Ensuring consistent support of capability bits and associated NS-values in n77 in USA	16.10.0
12/2022	RP-98	RP-223408	0675	3	F	Corrections to SON/MDT capabilities	16.11.0
	RP-98	RP-223413	0812	1	A	Correction to definition of dualPA-Architecture capability indication	16.11.0
	RP-98	RP-223404	0844	1	A	Clarification on 400MHz channel bandwidth	16.11.0