**3GPP TSG-RAN WG2 Meeting #121 R2-2302277**

**Athens, Greece, February 27th– March 3rd, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.331** | **CR** | **3936** | **rev** | **-** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network | **x** | Core Network |  |

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| ***Title:*** | CR on UE capability for *deriveSSB-IndexFromCellInter* | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation, Apple? Nokia? | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17 | | | | |  | ***Date:*** | | | 2023-03-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In LS (R2-2300052/ R4-2220723), RAN4 asks RAN2 to introduce an optional Rel-17 UE capability for non-NCSG capable UE to indicate whether UE can handle the RRC configuration *deriveSSB-IndexFromCellInter-r17*. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Introduce a new UE capability to indicate whether non-NCSG capable UEs can support the handling of RRC configuration *deriveSSB-IndexFromCellInter-r17*.  **Impact analysis**  Impacted 5G architecture options:  NR SA, (NG)EN-DC, NR-DC, NE-DC  Impacted functionality:  Inter-frequency RRM measurements  Inter-operability:   * If the network is implemented according to the CR and the UE is not, non-NCSG capable UE cannot indicate the support of RRC configuration *deriveSSB-IndexFromCellInter-r17*, thus the network will not configure deriveSSB-IndexFromCellInter-r17, no inter-operability issue is foreseen. * If the UE is implemented according to the CR and the network is not, even if non-NCSG capable UE indicates the support of RRC configuration *deriveSSB-IndexFromCellInter-r17*, the network will not configure the field, no inter-operability issue is foreseen. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The RRC configuration *deriveSSB-IndexFromCellInter-r17* cannot be applicable to non-NCSG capable UE. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.3.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **x** |  | Other core specifications | | | | TS 38.306 CR 0885 | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

Start of change

6.3.3 UE capability information elements

1. – *MeasAndMobParameters*

The IE *MeasAndMobParameters* is used to convey UE capabilities related to measurements for radio resource management (RRM), radio link monitoring (RLM) and mobility (e.g. handover).

***MeasAndMobParameters* information element**

-- ASN1START

-- TAG-MEASANDMOBPARAMETERS-START

MeasAndMobParameters ::= SEQUENCE {

measAndMobParametersCommon MeasAndMobParametersCommon OPTIONAL,

measAndMobParametersXDD-Diff MeasAndMobParametersXDD-Diff OPTIONAL,

measAndMobParametersFRX-Diff MeasAndMobParametersFRX-Diff OPTIONAL

}

MeasAndMobParameters-v1700 ::= SEQUENCE {

measAndMobParametersFR2-2-r17 MeasAndMobParametersFR2-2-r17 OPTIONAL

}

MeasAndMobParametersCommon ::= SEQUENCE {

supportedGapPattern BIT STRING (SIZE (22)) OPTIONAL,

ssb-RLM ENUMERATED {supported} OPTIONAL,

ssb-AndCSI-RS-RLM ENUMERATED {supported} OPTIONAL,

...,

[[

eventB-MeasAndReport ENUMERATED {supported} OPTIONAL,

handoverFDD-TDD ENUMERATED {supported} OPTIONAL,

eutra-CGI-Reporting ENUMERATED {supported} OPTIONAL,

nr-CGI-Reporting ENUMERATED {supported} OPTIONAL

]],

[[

independentGapConfig ENUMERATED {supported} OPTIONAL,

periodicEUTRA-MeasAndReport ENUMERATED {supported} OPTIONAL,

handoverFR1-FR2 ENUMERATED {supported} OPTIONAL,

maxNumberCSI-RS-RRM-RS-SINR ENUMERATED {n4, n8, n16, n32, n64, n96} OPTIONAL

]],

[[

nr-CGI-Reporting-ENDC ENUMERATED {supported} OPTIONAL

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[[

eutra-CGI-Reporting-NEDC ENUMERATED {supported} OPTIONAL,

eutra-CGI-Reporting-NRDC ENUMERATED {supported} OPTIONAL,

nr-CGI-Reporting-NEDC ENUMERATED {supported} OPTIONAL,

nr-CGI-Reporting-NRDC ENUMERATED {supported} OPTIONAL

]],

[[

reportAddNeighMeasForPeriodic-r16 ENUMERATED {supported} OPTIONAL,

condHandoverParametersCommon-r16 SEQUENCE {

condHandoverFDD-TDD-r16 ENUMERATED {supported} OPTIONAL,

condHandoverFR1-FR2-r16 ENUMERATED {supported} OPTIONAL

} OPTIONAL,

nr-NeedForGap-Reporting-r16 ENUMERATED {supported} OPTIONAL,

supportedGapPattern-NRonly-r16 BIT STRING (SIZE (10)) OPTIONAL,

supportedGapPattern-NRonly-NEDC-r16 ENUMERATED {supported} OPTIONAL,

maxNumberCLI-RSSI-r16 ENUMERATED {n8, n16, n32, n64} OPTIONAL,

maxNumberCLI-SRS-RSRP-r16 ENUMERATED {n4, n8, n16, n32} OPTIONAL,

maxNumberPerSlotCLI-SRS-RSRP-r16 ENUMERATED {n2, n4, n8} OPTIONAL,

mfbi-IAB-r16 ENUMERATED {supported} OPTIONAL,

dummy ENUMERATED {supported} OPTIONAL,

nr-CGI-Reporting-NPN-r16 ENUMERATED {supported} OPTIONAL,

idleInactiveEUTRA-MeasReport-r16 ENUMERATED {supported} OPTIONAL,

idleInactive-ValidityArea-r16 ENUMERATED {supported} OPTIONAL,

eutra-AutonomousGaps-r16 ENUMERATED {supported} OPTIONAL,

eutra-AutonomousGaps-NEDC-r16 ENUMERATED {supported} OPTIONAL,

eutra-AutonomousGaps-NRDC-r16 ENUMERATED {supported} OPTIONAL,

pcellT312-r16 ENUMERATED {supported} OPTIONAL,

supportedGapPattern-r16 BIT STRING (SIZE (2)) OPTIONAL

]],

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-- R4 19-2 Concurrent measurement gaps

concurrentMeasGap-r17 CHOICE {

concurrentPerUE-OnlyMeasGap-r17 ENUMERATED {supported},

concurrentPerUE-PerFRCombMeasGap-r17 ENUMERATED {supported}

} OPTIONAL,

-- R4 19-1 Network controlled small gap (NCSG)

nr-NeedForGapNCSG-Reporting-r17 ENUMERATED {supported} OPTIONAL,

eutra-NeedForGapNCSG-Reporting-r17 ENUMERATED {supported} OPTIONAL,

-- R4 19-1-1 per FR Network controlled small gap (NCSG)

ncsg-MeasGapPerFR-r17 ENUMERATED {supported} OPTIONAL,

-- R4 19-1-2 Network controlled small gap (NCSG) supported patterns

ncsg-MeasGapPatterns-r17 BIT STRING (SIZE(24)) OPTIONAL,

-- R4 19-1-3 Network controlled small gap (NCSG) supported NR-only patterns

ncsg-MeasGapNR-Patterns-r17 BIT STRING (SIZE(24)) OPTIONAL,

-- R4 19-3-2 pre-configured measurement gap

preconfiguredUE-AutonomousMeasGap-r17 ENUMERATED {supported} OPTIONAL,

-- R4 19-3-1 pre-configured measurement gap

preconfiguredNW-ControlledMeasGap-r17 ENUMERATED {supported} OPTIONAL,

handoverFR1-FR2-2-r17 ENUMERATED {supported} OPTIONAL,

handoverFR2-1-FR2-2-r17 ENUMERATED {supported} OPTIONAL,

-- RAN4 14-1: per-FR MG for PRS measurement

independentGapConfigPRS-r17 ENUMERATED {supported} OPTIONAL,

rrm-RelaxationRRC-ConnectedRedCap-r17 ENUMERATED {supported} OPTIONAL,

-- R4 25-3: Parallel measurements with multiple measurement gaps

parallelMeasurementGap-r17 ENUMERATED {n2} OPTIONAL,

condHandoverWithSCG-NRDC-r17 ENUMERATED {supported} OPTIONAL,

gNB-ID-LengthReporting-r17 ENUMERATED {supported} OPTIONAL,

gNB-ID-LengthReporting-ENDC-r17 ENUMERATED {supported} OPTIONAL,

gNB-ID-LengthReporting-NEDC-r17 ENUMERATED {supported} OPTIONAL,

gNB-ID-LengthReporting-NRDC-r17 ENUMERATED {supported} OPTIONAL,

gNB-ID-LengthReporting-NPN-r17 ENUMERATED {supported} OPTIONAL

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-- R4 25-1: Parallel measurements on multiple SMTC-s for a single frequency carrier

parallelSMTC-r17 ENUMERATED {n4} OPTIONAL,

-- R4 19-2-1 Concurrent measurement gaps for EUTRA

concurrentMeasGapEUTRA-r17 ENUMERATED {supported} OPTIONAL,

serviceLinkPropDelayDiffReporting-r17 ENUMERATED {supported} OPTIONAL,

-- R4 19-1-4 Network controlled small gap (NCSG) performing measurement based on flagderiveSSB-IndexFromCell-inter

ncsg-SymbolLevelScheduleRestrictionInter-r17 ENUMERATED {supported} OPTIONAL

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eventD1-MeasReportTrigger-r17 ENUMERATED {supported} OPTIONAL,

independentGapConfig-maxCC-r17 SEQUENCE {

fr1-Only-r17 INTEGER (1..32) OPTIONAL,

fr2-Only-r17 INTEGER (1..32) OPTIONAL,

fr1-AndFR2-r17 INTEGER (1..32) OPTIONAL

} OPTIONAL

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[[

deriveSSB-IndexFromCellInterNon-NCSG-r18 ENUMERATED {supported} OPTIONAL

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}

MeasAndMobParametersXDD-Diff ::= SEQUENCE {

intraAndInterF-MeasAndReport ENUMERATED {supported} OPTIONAL,

eventA-MeasAndReport ENUMERATED {supported} OPTIONAL,

...,

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handoverInterF ENUMERATED {supported} OPTIONAL,

handoverLTE-EPC ENUMERATED {supported} OPTIONAL,

handoverLTE-5GC ENUMERATED {supported} OPTIONAL

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[[

sftd-MeasNR-Neigh ENUMERATED {supported} OPTIONAL,

sftd-MeasNR-Neigh-DRX ENUMERATED {supported} OPTIONAL

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[[

dummy ENUMERATED {supported} OPTIONAL

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}

MeasAndMobParametersFRX-Diff ::= SEQUENCE {

ss-SINR-Meas ENUMERATED {supported} OPTIONAL,

csi-RSRP-AndRSRQ-MeasWithSSB ENUMERATED {supported} OPTIONAL,

csi-RSRP-AndRSRQ-MeasWithoutSSB ENUMERATED {supported} OPTIONAL,

csi-SINR-Meas ENUMERATED {supported} OPTIONAL,

csi-RS-RLM ENUMERATED {supported} OPTIONAL,

...,

[[

handoverInterF ENUMERATED {supported} OPTIONAL,

handoverLTE-EPC ENUMERATED {supported} OPTIONAL,

handoverLTE-5GC ENUMERATED {supported} OPTIONAL

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[[

maxNumberResource-CSI-RS-RLM ENUMERATED {n2, n4, n6, n8} OPTIONAL

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simultaneousRxDataSSB-DiffNumerology ENUMERATED {supported} OPTIONAL

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nr-AutonomousGaps-r16 ENUMERATED {supported} OPTIONAL,

nr-AutonomousGaps-ENDC-r16 ENUMERATED {supported} OPTIONAL,

nr-AutonomousGaps-NEDC-r16 ENUMERATED {supported} OPTIONAL,

nr-AutonomousGaps-NRDC-r16 ENUMERATED {supported} OPTIONAL,

dummy ENUMERATED {supported} OPTIONAL,

cli-RSSI-Meas-r16 ENUMERATED {supported} OPTIONAL,

cli-SRS-RSRP-Meas-r16 ENUMERATED {supported} OPTIONAL,

interFrequencyMeas-NoGap-r16 ENUMERATED {supported} OPTIONAL,

simultaneousRxDataSSB-DiffNumerology-Inter-r16 ENUMERATED {supported} OPTIONAL,

idleInactiveNR-MeasReport-r16 ENUMERATED {supported} OPTIONAL,

-- R4 6-2: Support of beam level Early Measurement Reporting

idleInactiveNR-MeasBeamReport-r16 ENUMERATED {supported} OPTIONAL

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increasedNumberofCSIRSPerMO-r16 ENUMERATED {supported} OPTIONAL

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}

MeasAndMobParametersFR2-2-r17 ::= SEQUENCE {

handoverInterF-r17 ENUMERATED {supported} OPTIONAL,

handoverLTE-EPC-r17 ENUMERATED {supported} OPTIONAL,

handoverLTE-5GC-r17 ENUMERATED {supported} OPTIONAL,

idleInactiveNR-MeasReport-r17 ENUMERATED {supported} OPTIONAL,

...

}

-- TAG-MEASANDMOBPARAMETERS-STOP

-- ASN1STOP

End of change