**3GPP TSG-RAN WG2 Meeting #128 *R2-2409986***

**Orlando, USA, 18 – 22 November 2024**

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| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network | **x** | Core Network |  |

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|  |
| ***Title:***  |  |
|  |  |
| ***Source to WG:*** | Nokia |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_ENDC\_SON\_MDT\_enh2-Core |  | ***Date:*** | 2024-11-20 |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** | Rel-18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | In Rel-18 the SON/MDT functionality was enhanced to support NR-U (LBT) related enhancements. As a part of this work the *PerRAInfoList-v1800* was added to the RA report to facilitate the root cause analysis in the network when LBT is applied.These parameters have not been added to the SCGFailureInformation message even if the procedure (clause 5.7.10.5) used when the SCGFailureInformation message is created refers to them:1> if at least one LBT failure indication has been received from lower layers during the random-access procedure:[...]3> if all preamble transmissions for the successive random-access attempts associated to this CSI-RS were blocked by LBT:4> include *allPreamblesBlocked*;3> else:4> if LBT failure indication was received from lower layers for the last random-access preamble transmission attempt in the CSI-RS associated to the *csi-RS-Index*, before changing the CSI-RS for random access preamble transmission:5> include *lbt-Detected;* |
|  |  |
| ***Summary of change:*** | The SCGFailureInformation is extended with the *PerRAInfoList-v1800.***Impact analysis**Architecture options:NR-DCImpacted functionality: SCG failure information reporting and NR-UInter-operability: 1. If the network is implemented according to the CR and the UE is not then there is no inter-operability issue, as the new IEs will not be sent to the network.
2. If the UE is implemented according to the CR and the network is not then there is no inter-operability issue, as the network will ignore the new IEs.
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| ***Consequences if not approved:*** | The UE will not be able to report the LBT related parameters with the RA parameters when the SCG failure is related to RA. This would make difficult to the network to identify the root cause of the problem.The specification remains inconsistent, as procedure description for RA information determination refers to non-existent information elements. |
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| ***Clauses affected:*** | 6.2.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

*First Modified Subclause*

### 6.2.2 Message definitions

*<text omitted>*

#### *– SCGFailureInformation*

The *SCGFailureInformation* message is used to provide information regarding NR SCG failures detected by the UE.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: UE to Network

*SCGFailureInformation* message

-- ASN1START

-- TAG-SCGFAILUREINFORMATION-START

SCGFailureInformation ::= SEQUENCE {

 criticalExtensions CHOICE {

 scgFailureInformation SCGFailureInformation-IEs,

 criticalExtensionsFuture SEQUENCE {}

 }

}

SCGFailureInformation-IEs ::= SEQUENCE {

 failureReportSCG FailureReportSCG OPTIONAL,

 nonCriticalExtension SCGFailureInformation-v1590-IEs OPTIONAL

}

SCGFailureInformation-v1590-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

FailureReportSCG ::= SEQUENCE {

 failureType ENUMERATED {

 t310-Expiry, randomAccessProblem,

 rlc-MaxNumRetx,

 synchReconfigFailureSCG, scg-ReconfigFailure,

 srb3-IntegrityFailure, other-r16, spare1},

 measResultFreqList MeasResultFreqList OPTIONAL,

 measResultSCG-Failure OCTET STRING (CONTAINING MeasResultSCG-Failure) OPTIONAL,

 ...,

 [[

 locationInfo-r16 LocationInfo-r16 OPTIONAL,

 failureType-v1610 ENUMERATED {scg-lbtFailure-r16, beamFailureRecoveryFailure-r16,

 t312-Expiry-r16, bh-RLF-r16, beamFailure-r17, spare3, spare2, spare1} OPTIONAL

 ]],

 [[

 previousPSCellId-r17 SEQUENCE {

 physCellId-r17 PhysCellId,

 carrierFreq-r17 ARFCN-ValueNR

 } OPTIONAL,

 failedPSCellId-r17 SEQUENCE {

 physCellId-r17 PhysCellId,

 carrierFreq-r17 ARFCN-ValueNR

 } OPTIONAL,

 timeSCGFailure-r17 INTEGER (0..1023) OPTIONAL,

 perRAInfoList-r17 PerRAInfoList-r16 OPTIONAL

 ]],

 [[

 perRAInfoList-v18XX PerRAInfoList-v1800 OPTIONAL

 ]]

}

MeasResultFreqList ::= SEQUENCE (SIZE (1..maxFreq)) OF MeasResult2NR

-- TAG-SCGFAILUREINFORMATION-STOP

-- ASN1STOP

| *SCGFailureInformation field descriptions* |
| --- |
| ***measResultFreqList***The field contains available results of measurements on NR frequencies the UE is configured to measure by *measConfig*. |
| ***measResultSCG-Failure***The field contains the *MeasResultSCG-Failure* IE which includes available results of measurements on NR frequencies the UE is configured to measure by the NR SCG *RRCReconfiguration* message.  |
| ***previousPSCellId***This field indicates the physical cell id and carrier frequency of the cell that is the source PSCell of the last PSCell change. In case of PSCell addition failure, this field is absent. |
| ***failedPSCellId***This field indicates the physical cell id and carrier frequency of the cell in which SCG failure is detected or the target PSCell of the failed PSCell change or failed PSCell addition. |
| ***timeSCGFailure***This field is used to indicate the time elapsed since the last execution of *RRCReconfiguration* with *reconfigurationWithSync* for the SCG until the SCG failure. Actual value = field value \* 100ms. The maximum value 1023 means 102.3s or longer. |

*<text omitted>*

*End of Changes*