Alcatel-Lucent 9412

eNodeB | Release LA6.0

Counters Reference Guide

9YZ-03991-0105-RKZZA

Issue 2 | April 2013

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About this document

Purpose

This document provides a list of LTE access network observation counters collected by the performance server.

Reason for reissue

The reissue history of this document is described in the following paragraphs.

Issue 2

The reissue history for Issue 2 is shown in the following table.

Location	Change
"12124 - Downlink RLC burst time" (p. 13-16) "12125 - Downlink RLC last TTI time" (p. 13-19) "12126 - Downlink RLC burst size" (p. 13-22) "12127 - Downlink RLC PDU size in last TTI" (p. 13-25)	Included screenings 2 to 8 for the counters 12124 to 12127.
Part II: "Impacted Counters"	Updated the list of *Counters introduced in LA6.0.1* to include the above counters under the feature 115627.

Issue 1

The reissue history for Issue 1 is shown in the following table.

Location	Change
Standard issue of the document	There is no change in the technical content after issue 0.06.

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Issue 0.06

The reissue history for Issue 0.06 is shown in the following table.

Location	Change
"13221 - L1L2 control processor 1 CPU utilization histogram" (p. 6-25)	Changed the description of notes for the following counters.
"13222 - L2 processor 1 CPU utilization histogram" (p. 6-27)	• 13221, 13222, 13223, 13224, 13225, 13226, 13229, 13230, 13231, 13232, 13233, 13234
"13223 - L1L2 control processor 2 CPU utilization histogram" (p. 6-29)	
"13224 - L2 processor 2 CPU utilization histogram" (p. 6-31)	
"13225 - L1L2 control processor 3 CPU utilization histogram" (p. 6-33)	
"13226 - L2 processor 3 CPU utilization histogram" (p. 6-35)	
"13229 - L1L2 control processor 1 memory utilization" (p. 6-39)	
"13230 - L2 processor 1 memory utilization" (p. 6-40)	
"13231 - L1L2 control processor 2 memory utilization" (p. 6-41)	
"13232 - L2 processor 2 memory utilization" (p. 6-42)	
"13233 - L1L2 control processor 3 memory utilization" (p. 6-43)	
"13234 - L2 processor 3 memory utilization" (p. 6-44)	

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Issue 0.5

The reissue history for Issue 0.05 is shown in the following table.

Location	Change
"12124 - Downlink RLC burst time" (p. 13-16) "12125 - Downlink RLC last TTI time" (p. 13-19) "12126 - Downlink RLC burst size" (p. 13-22) "12127 - Downlink RLC PDU size in last TTI" (p. 13-25)	Included counters 12124 to 12127 to address the CRI 00940598.02.

Issue 0.04

The reissue history for Issue 0.04 is shown in the following table.

Location	Change
"12635 - Number of abnormally released active SAE bearers" (p. 8-35)	Modified the description of the counter 12635 to address the AR 1-4114124.
"12634 - E-RAB released due to radio link failure per QCI" (p. 8-33) "12635 - Number of abnormally released active SAE bearers" (p. 8-35)	Reintroduced 12634, 12635 counters for feature 115929 tracked from AR 1-4361063 on 6.0.0 document version.

Issue 0.03

The reissue history for Issue 0.03 is shown in the following table.

Location	Change
Part II: "Impacted Counters"	Introduced new, modified, and deleted list of counters for CL1 and CL2 releases.

Issue 0.02

The reissue history for Issue 0.02 is shown in the following table.

Location	Change
12040 - Uplink PRB used per type of service	Updated 12040 counter to add a note that this counter is introduced for bCEM only.
"Counters introduced in LA6.0.1" (p. 4-2)	Included 160636 feature.

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Issue 0.01

The reissue history for Issue 0.01 is shown in the following table.

Location	Change
Entire document	The RMD inputfile used to generate this document is - RMD_ENB_Counters_LA5.0.2_ V6_12w12.xml Deleted the following TDD specific counters from this issue: • 12895, 12896, 12897, 12898, 12878, 12875, 12876, 12877,12035, 12029 Deleted the following counters identified for future releases from this issue: • Feature 115928 - 12124 to 12127 • Feature 115929 - 12634, 12635 • Feature 115239 - 12041 to 12048
"12003 - Cell downlink L1 throughput" (p. 12-5) "12031 - Cell uplink L1 throughput load" (p. 12-50)	For counter 12003 and 12031 triggering event information has been changed for bCEM so that they peg the same as eCEM.
Capacity chapter from Part III: "eNodeB FDD counters"	Deleted counter 13249 as this has been dropped for the LA6.0 release.

Intended audience

This document is intended for operations and maintenance personnel responsible for performance management of LTE access network.

Supported systems

This document applies to the System Release LTE RAN LA6.0 (frequency division duplex - FDD).

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How to use this document

The following table describes how to use this document.

Document organization	When to use
Part I: "eNodeB counter description"	This part describes the eNodeB counter description and provides information on counter definition template, counter types on the OAM GUI, counter hierarchy, and access network observation counters.
Part II: "Impacted Counters"	Introduced the part II information for list of newly introduced counters for the interim releases.
Part III: "eNodeB FDD counters"	This part provides a list of FDD counter families and their counters. Each counter is described separately in a table, and these tables are arranged in alphanumerical order.

Conventions used

Vocabulary conventions

The following vocabulary conventions are used in this document:

Terms used	Description
CC	Cumulative Counter
CFN	Connection Frame Number
CUM	CUMulative
DER	Discrete Event Registration counter
DTD	Document Type Definition
mW	milliWatt
NEI	NEIghbouring
SI	Status Inspection
VAL	VALue counter

Term conventions

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The following terms are used in this document:

Terms used	Description

Access Stratum Configuration	Pointer to a pre-defined set of Radio Bearers providing a given Radio Access Bearer service.
	
	For example:
	
	• the Downlink (DL) access stratum configuration with number 1 is dedicated to voice support. It comprises the following Radio Bearers:
	   – 3 x 12.2-Kbps CS RBs on DTCH
	   – 3 x 3.4-Kbps SRB on DCCH
	
	• the DL access stratum configuration with number 2 is dedicated to packet support at 64 Kbps. It comprises the following Radio Bearers:
	   – 1 x 64-Kbps PS RB on DTCH
	   – 3 x 3.4-Kbps SRB for DCCH.
	Refer to the following configurations:
	1. Downlink Access Stratum Configuration (DASC)
	2. Downlink Radio Bearer Set Configuration (DRBS)
	3. Uplink Access Stratum Configuration (UASC)
	4. Uplink Radio Bearer Set Configuration (URBS)

Connection Frame Number (CFN)	CFN is the frame counter used for the L2/transport channel synchronization between UE and LTE RAN. A CFN value is associated to each Transport Block Set (TBS) and it is passed together with it through the MAC-L1 SAP. CFN provides a common frame reference (at L2) to be used that is for synchronized transport channel reconfiguration.
Measurement	Term used in 3GPP TS 32.104 specifications. It has the same meaning as the word *counter* and is used in this document to distinguish a counter from a *(radio) measurement*.
Reference cell	Cell ranking first in a UE active set considering a radio criteria, that means the cell is supposed to provide on average the best radio quality for the reception of the next frames. The reference cell is the primary cell considered in RRM.

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Related information

The following document is referenced in this document or it includes additional information relevant to this document. Refer to

- *Alcatel-Lucent 9400 LTE Radio Access Network Customer Documentation Overview* for the purpose of the document listed.
- *Alcatel-Lucent 9400 LTE Radio Access Network - Terminology Overview*
- *Alcatel-Lucent 9400 Release Operational Impact (ROI) FDD Reference Guide NPO Indicators, NUART Counters and Indicators and PCMD Counters and Indicators* to get the list of changes to frequency division duplex (FDD) alarms, parameters, counters, and indicators in the LTE RAN System Release LA6.0 in comparison to the LTE RAN System Release LA5.0.

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Part I: eNodeB counter description

Overview

Purpose

This part provides detailed description of the counter definition template, counter hierarchy, and counter types on the Operations, Administration and Maintenance (OAM) GUI. It also describes the access network observation counters.

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1   Counter presentation

Overview

Purpose

A standard observation counter is a device in performance management to calculate the number of occurrences of an event. For more information on the definitions for observation counters, see 3GPP TS 32.104 specifications. This chapter explains the conventions and the format used in the counter families.

Each counter contains the following descriptions:

- Counter attributes (3GPP name, counter type, location, and so on)
- Counter definition (triggering event)

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Wording assumption

Overview

Wording counter and measurement terms are being used in this document to identify the same concept. Usually, Alcatel-Lucent uses the term counter to distinguish a counter from a (radio) measurement.

A counter is periodically elaborated on periods expressed in minutes or hours. For example, 5 min., while a measurement is elaborated on periods expressed in milliseconds as 500 ms.

3GPP Performance Management specifications preferably uses measurement. When the context refers to 3GPP specifications, measurement is used, while counter is used in Alcatel-Lucent specific part, but both wordings are equivalent.

Counter families

Overview

The counters in this document are grouped into counter families. A counter family is attached to a given LTE feature. For example, the UE Context Management family groups all the counters involved with UE Context Management (set up, modification, deletion, release).

The Alcatel-Lucent defined counter families are not the same as the 3GPP measurement families defined in 3GPP TS 32.425.

For counters specific to Alcatel-Lucent, the counter name (referred to as "3GPP Name" (p. 1-11) in the following section) starts with the prefix "VS". For example, *VS.IncomingInterENodeBS1HOFailure.CACFailure*.

For counters defined in 3GPP TS 32.425, the counter name (referred to as "3GPP Name" (p. 1-11) in the following section) is compliant to this specification and starts with a prefix corresponding to the 3GPP measurement family. For example, *S1SIG.ConnEstabAtt*.

Object hierarchy

Overview

Counters are reported on objects that are located according to the hierarchy. The resource objects are defined as a subset of the managed objects of eNodeB native Management Information Model (MIM). This model is used in Service Aware Manager (SAM) interface with eNodeB. In the performance monitoring object model, each object class has a unique set of defined counters supported by each and every instance of the class. It presents a subset of the eNodeB MIM. The figure depicts a potential future Measured Object containment tree of the eUTRAN.

Figure 1-1   Object hierarchy
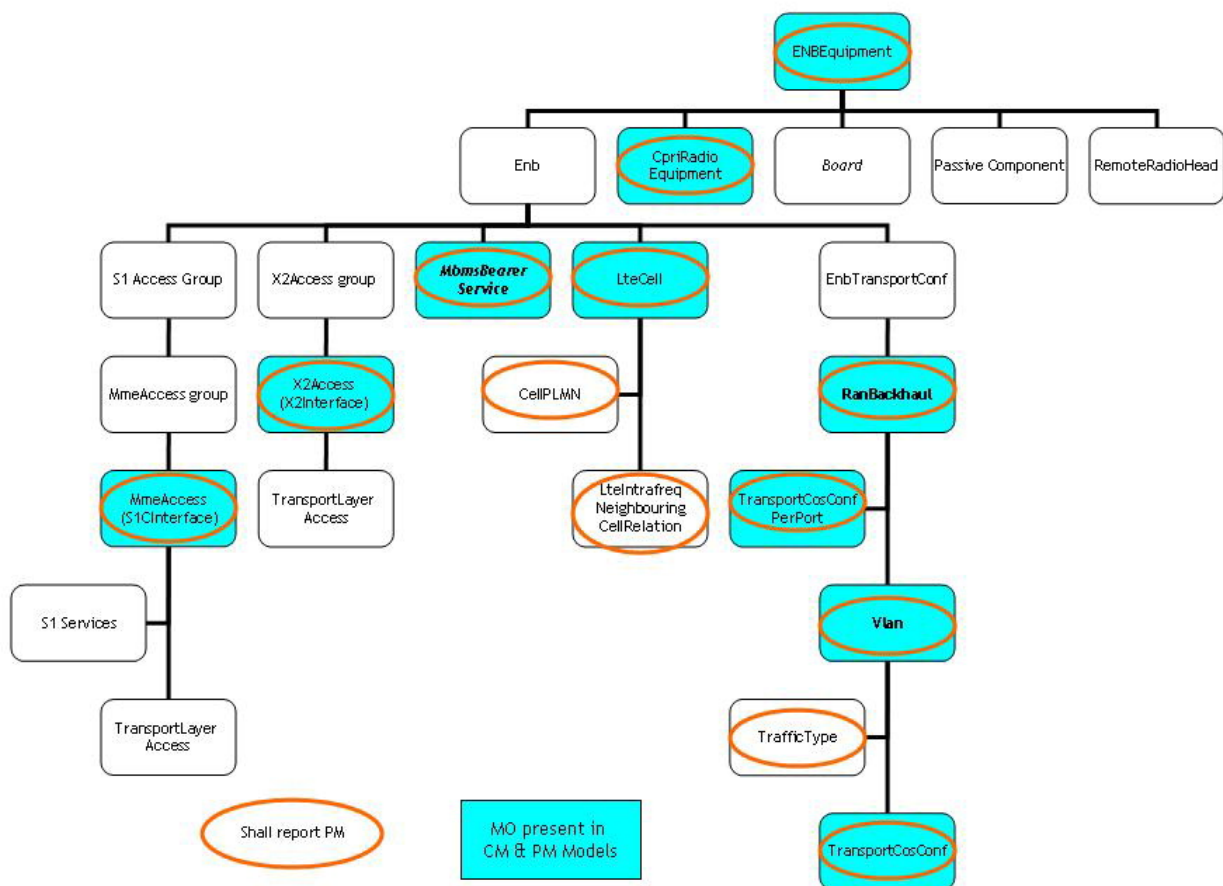
The following subset is extended:

- The subnetwork object marked is added as the root of the containment tree to reflect the LTE RAN topology.

- ENBEquipment object, CpriRadioEquipment object, LteCell object, MbmsBearerService object, X2Access (X2Interface) object, MmeAccess (S1CInterface) object, CellPLMN object, Vlan object, TransportCosConfPerPort object and TransportCosConf object have counters defined in Release LA5.0

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Counter types on the OAM GUI

Overview

The user-accessible observation counters available on the OAM GUI are as follows:

- CC – Cumulative (or TOTAL) Counter
- DER – Discrete Event Registration (or VALUE) Counter
- Load Counter

CC – Cumulative (or TOTAL) Counter

Cumulative counters provide raw counts. A Cumulative counter is a CUM (CC) type counter, as identified in 3GPP TS 32.104 specifications. It is incremented by one each time the counted event occurs, and it provides the cumulative value. One NE cumulative counter provides one counter at the OAM GUI level. The cumulative counter type is the simplest type of counter. It captures the measurement data from the occurrences of a given type of event detected during the granularity period and offers the means of counting measurement data related to predefined events. The result is a single field with cumulated value.

DER – Discrete Event Registration (or VALUE) Counter

VALUE Counters are also known as Discrete Event Registration (DER). Value counters can provide the minimum, maximum and average values. Each event provides a value that is added to the cumulated value. The average corresponds to the cumulated value divided by the number of events and is not reported by the eNodeB but computed at the NPO level. The VALUE counters are elaborated according to the mechanism defined by 3GPP TS 32.104 to implement a DER (VALUE) type measurement. This mechanism provides average values from raw counts obtained by internal events (the time interval between two events is random and is not accessible to users). The counter is incremented by a value attached to the event itself.

A VALUE counter captures measurement data from the occurrences of a given type of event detected during the granularity period. A measurement is extracted from each occurrence of the event. The individual measurement is contributed towards the summary counter for the corresponding granularity period.

Each value counter reports the following values at the granularity period:

- cumulated value (.Cum in XML files)
- number of samples (.NbEvt in XML files)
- maximum added value (.Max in XML files)
- minimum added value (.Min in XML files)

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Note: The reported value counter is collected by a non real-time task at the end of each observation period. The collection period (usually 1 hr.) for the performance management file does not imply that all .*NbEvt* of *LOAD counters* are exactly equal to the number of counter periods included in one collection (12 for counters with 5 mn granularity). Due to the low priority of the performance management task, it is possible when the *PM* file is built that some samples can miss. This can be included in the next file. This can lead to one file with NbEvt equal to 11 (for a 5-mn counter), followed later by one with 13 (possibly with some 12 between). The average values calculated by computing .*Cum*/.*NbEvt* are still meaningful, as the samples added in .*Cum* are coherent with the .*NbEvt* value.

Load Counter

Load counters are elaborated according to the mechanism defined by 3GPP TS 32.104 to implement an SI type measurement. This mechanism provides average values from raw counts obtained by internal sampling (the time interval between two events is not accessible to users). The counter is incremental by a sample value on the sampling event occurrence. A load counter is a time-based counter.

There are two types of load counters:

1. **Load counter with periodic sampling (SI – status inspection)**, is derived from samplings of a specified measurement, taken at regular intervals during the granularity period. That is, the individual samplings contribute toward the summary counter for the corresponding granularity period. The summary counter is useful to analyze the averages, trends, or cycles. Load counters with periodic sampling are also known as status inspection.

   Load counters with periodic sampling provides the minimum, maximum and average values. This counter type is based on a self-generated sampling method at a defined tempo. This counter offers the means of getting rapidly changing data.

2. **Load counter with sampling on event occurrence,** is a specified measurement done without sampling at regular intervals, but with sampling triggered by predefined events occurring during the granularity period. Each individual sampling contributes toward the summary counter for the corresponding granularity period. The summary counter is useful to analyze the averages, trends, or cycles. This is a second type of load counter which does not refer to status inspection as defined in the standard. However, both types of load counters, report same values and apply the same algorithm to calculate these values:

   Alcatel-Lucent provides the following:

- Cumulated value

- Elapsed time

- Maximum value

- Minimum value

Note: Alcatel-Lucent does not implement *GAUGE* type measurements because providing the current value of a measurement by increasing it by one when a positive event occurs and by decreasing it by one when a negative event occurs, it can lead to some shifts when an event is missed.

Subcounter

The subcounters are known as screenings. Counters support screenings or subcounters as elements of the main counter.

For example, a cumulative counter, recording the number of occurrences of a given type of event observed during the granularity period, is defined to record the number of instances of the event that belong within a given defined subclass of the event. In the case of a connection event, for example, the establishment causes can define subclasses of the event.

Load counter is defined to generate the following four subcounters:

- Cumulated value (.Cum in the XML files)
- Elapsed time in seconds (.NbEvt in the XML files)
- Maximum sampled value (.Max in the XML files)
- Minimum sampled value (.Min in the XML files)

Any applicable subcounter is identified using a suffix which is appended to the counter-name, but separated from it by a dot. For example, `<counter-name>.<subcounter-name>`(*VS.CellULL1ThroughputLoad.Min*)

Counter definition template

Overview

> The following template is used to describe the counters extracted from 3GPP TS 32.104 specifications.

Description

> This section contains an explanation of the measurement operation.

Counter Name

> This section contains the counter name.

Counter Code

> This section contains the counter code.

Counter Type

> This section contains the counter field, which is used to identify the counter type such as cumulative, load and value in the result files.

Triggering Event

> This section contains the condition that causes the measurement result data to be updated. The condition is defined by identifying protocol-related triggering events that either starts or stops the measurement processes or by updating the current measurement result value. When a precise condition cannot be provided, the conditional circumstances behind the update is stated.

Subcounter

> This section contains a description of expected result values.
>
> For example,
>
> - A single integer value. If more than one value is provided, the measurement is screened according to criteria.
> - A number of call releases is screened according to the cause of the call releases.
>
> The number of call releases related to a given cause can be considered a subcounter. The measurement result specification item includes a *screening paragraph* that specifies various subcounters and their meanings.

Subfamily

> This section states the Subfamily that the counter belongs to.

....

Report group

> This section states the Report group that the counter belongs to. Based on the selection at the Service Aware Manager (SAM) the operator can choose to select the Report groups which are reported by the eNodeB to SAM.

3GPP Name

> This section provides the name of the counter as it is reported by the eNodeB in the Performance Management xml files.

Object Class

> This section contains the object class value. For example, Eutrancell means that object class value is being measured. The object class values used for this purpose is in accordance with 3GPP TS 32.106. This means the Network Element (NE) or resource object model is defined in the Basic CM IRP Information Model - 3GPP TS 32.106-5 and naming conventions are defined in the Naming Convention for Managed Objects - 3GPP TS 32.106-8. If applicable, this parameter is provided in the measurement job.

Range

> This section contains the counter range.

Unit

> This section contains the counter unit.

Notes

> This section contains notes associated with the counters.

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Performance and service measurement reporting

PM job reporting

The following data is obtained from the eNodeB in reply to a request from the SAM pertaining to each PM job. The information available is:

- PM job ID

- PM job type

- Administrative state

- Operational state

- The number of objects that are elements of the range of measurements

- The number of activated threshold observations

- The number of activated measurement types

- An estimation of the size of the uncompressed measurement result file, if the file is generated by the data upload command.

- The size of all stored uncompressed measurements.

- An estimation of the size of the uncompressed measurement result file created during the subsequent 24 h with the current scanner configuration.

Counter hierarchy

Overview

An observation counter stored in XML files can contain one or several levels. A dot (.) separates two successive levels.

The following example displays the counter hierarchy with two levels:

Example: *VS.IntraENodeBHOFailure.IntegrityFailure*

Counters with one level do not end with a dot:

Example: *VS.IntraENodeBHOFailureSum*

Aggregation rules

Overview

When aggregating counters over different periods of observation (temporal aggregation), follow the rules described in Table 1-1, "Aggregation rules" (p. 1-14). Let X1, X2, ...,Xn the measurements from periods 1,2,...,n and X the resulting value over the total period.

Table 1-1, "Aggregation rules" (p. 1-14) presents a rule for each counter.

Table 1-1   Aggregation rules

Rule	Results	Results
Rtotal	X.cum = X1.cum + X2.cum + ... + Xn.cum	CUM (CC) counters
Rload/Rval	X.cum = X1.cum + ... + Xn.cum	Some LOAD and VAL counters
	X.nbevt = X1.nbevt + ... + Xn.nbevt	
	X.avg = (X1.cum + ... + Xn.cum) / (X1.nbevt + ... + Xn.nbevt)	
	X.min = min (X1.min,...,Xn.min)	
	X.max = max (X1.max,...,Xn.max)	
Rload*	Same as Rload but resulting X.cum has no physical meaning due to the nature of the measurement (like percents) and is not interpreted but is necessary for intermediate computations.	Some LOAD counters
Ravg	X = Xi / n where Xi (i = 1 to n) represent average values	MSS counters
Radd	X = SXi where Xi (i = 1 to n) represent cumulative values	MSS counters

Table 1-1   Aggregation rules   (continued)

Rule	Results	Results
Rmin	$X = \min(Xi)$ where Xi (i = 1 to n) represent minimum values	MSS counters
Rmin	$X = \max(Xi)$ where Xi (i = 1 to n) represent maximum values	MSS counters

eNodeB observation XML files

Overview

This topic describes the file tree structure, the data formats, and the file naming conventions that the PM collector uses to store the eNodeB observation data.

The SAM periodically uploads the observation files stored on the eNodeB The eNodeB XML observation files are generated on the main server in the following directory.

/opt/5620sam/lte/stats/<YYYYMMDD>/<eNodeB>/<uniqueName>

The XML format is compliant with the 3GPP DTD file: 32.401-02.dtd.

The generated eNodeB XML file has the following format:

```
<type><startdate>.<starttime>-<endtime>_<eNodeB-uniqueName>
```

Where:

- `type`
  The default value is A, indicating the observation file contains data originated from a single eNodeB.
- `startdate`
  Refers to the beginning date of the granularity period, its format is*<YYYYMMDD>*.
- `starttime`
  Refers to the beginning time of the granularity period, its format is *<hhmm+#GMT>*.
- `endtime`
  Refers to the end time of the granularity period, its format is *<hhmm+#GMT>*.

To generate LTE RAN access observation reports from NPO, see *Alcatel-Lucent NPO - User Guide,* 3BK 21376 AAAA PCZZA.

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eNodeB counter observation data

Overview

Each eNodeB observation counter is attached to managed object instances. The eNodeB observation counter families available for this release are classified as follows:

Call admission control

These counters are related to Call admission control.

Capacity Counter

This counter monitors the number of UEs that are simultaneously in RRC_CONNECTED state in the cell.

Counter reporting information

These counters are related to counter reporting.

E-UTRAN Radio Access Bearer (E-RAB) Management counters

These observation counters are dedicated to E-RAB management monitoring.

EnodeB synchronization counters

These observation counters are dedicated to EnodeB synchronization.

Ip transport

These counters are related to IP transport.

L1 Traffic and throughput

These observation counters are dedicated to L1 Traffic and throughput.

L2 Traffic and throughput

These observation counters are dedicated to L2 Traffic and throughput.

M1 Traffic

These observation counters are dedicated to M1 Traffic.

Mobility counters

These counters aim at monitoring mobility (that is, handover) procedures but also redirections to other networks.

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Paging

These counters are related to Paging.

PDCP SDU

These counters are related to Packet Data Convergence Protocol (PDCP) Service Data Unit (SDU).

Radio frequency measurement

These counters are related to Radio frequency measurements.

Radio scheduler

These counters are related to the uplink and downlink Radio schedulers.

Radio Resource Control (RRC) connection counters

These observation counters are related to the status of the RRC connection.

S1 Dedicated connection

These counters are related to the S1 dedicated connection.

S1 Traffic and throughput

These counters are related to S1 Traffic and throughput.

SCTP

These counters are related to Stream Control Transport Protocol (SCTP).

UE Context management

These counters are related to the UE context.

X2 Traffic and throughput

These counters are related to X2 Traffic and throughput.

eNodeB observation activation

Overview

The eNodeB observation session is automatically created after building the eNodeB. At the eNodeB, the counter collection cannot be deactivated. The granularity period is configurable. The eNodeB generates and stores one observation file per granularity period with a maximum latency of one minute after the end of this granularity period. The Performance Monitoring Data Files will be retained in the eNodeB for a minimum of 72 hours for the granularity period >= 15 minutes and for a minimum of 24h for a granularity period of 5 minutes. The eNodeB will periodically delete Performance Monitoring Data Files that are more than 72 hours old for the granularity period >= 15 minutes and more of 24h for a granularity period of 5 minutes, according to the file-name, so as to ensure that filestore space is not exhausted. The observation files are generated in XML format and the event is sent to the primary main server.

Counter collection

Performance counter periodic collection

The performance counter data is collected periodically according to the interval parameter configured in the eNodeB. The minimum configurable time interval for base-level functionality is 5 min.

The collected performance information is stored as a performance counter file. The following are the two types of performance data:

- Value collected (accumulated) during the measurement cycle
- Value reported at a single point during the measurement interval

    Note: The collection method depends on the counter type

The granularity period is the time between the initiations of two successive Performance Monitoring (PM) jobs. The granularity period selectable is 5 min.

From the Operations, Administration and Maintenance (OAM) point of view, the PM collector retrieves the PM files from the eNodeB and stores them on SAM. The Network Performance Optimizer (NPO) retrieves the stored performance monitoring data for post processing.

eNodeB counter collection

The eNodeB observation session is automatically created after building the eNodeB. At the eNodeB, the counter collection cannot be deactivated. The granularity period is configurable. The eNodeB generates and stores one observation file per granularity period with a maximum latency of one minute after the end of this granularity period.

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Performance counter management support on eNodeB

As the LTE network functionality evolves there is an increasing number of performance counters made available for the network operator to collect and analyze to determine network performance. The Performance counter management support on eNodeB makes

it possible to configure (i.e. create, modify and delete) the range of performance counters that the eNodeB reports to the EMS. The configuration of the performance counters to be reported are supported by the EMS.

The counters that are deactivated from the EMS will not be processed by the eNodeB as part of the performance measurement report.

Counter presentation   XML observation file compression

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XML observation file compression

Overview

The eNodeB compresses the performance monitoring data file and stores the file in SAM in the following format.

<Type><Date>.<StartTime>-<Endtime>_<NeType>-<NeUniqueName>.gz

Type

Refers to the observation data file of a single eNodeB. The default value is A.

Date

Refers to the date of monitoring as in directory name.

StartTime

Refers to the beginning time of the granularity period, its format is *<hhmm+#GMT>*.

Endtime

Refers to the end time of the granularity period, its format is *<hhmm+#GMT>*.

NeType

Refers to the type of NE, that is, eNodeB.

NeUniqueName

Refers to the name of the NE.

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Counter data

Observation counter identification

Observation counters available on OAM GUI are of three types:

- Cumulative (or Total)

  Counts the number of events. This counter increments by one each time the counted event occurs and it provides the cumulated value for the observation period.

- Value

  Records the value accumulation. It offers the means of measuring minimum, maximum, and the average values. The average value is an event weighted average.

- Load

  Offers the means of sampling rapidly changing data and obtaining an average a minimum or maximum value of the sampled data. The average value is a time weighted average.

Zero, one, or more screenings are associated with each counter. The screening mechanism provides a further specialization of the counters. For example, the screening *TimeOut* of the counter *VS.S1ConnectionEstablishmentFailure* counts the number of unsuccessful connection failures because of time-out.

A counter record refers to a counter screening value for a given measured object instance. When a Cumulative counter screening is measured on an object instance, the result is one-counter record. Similarly when a Load or Value counter screening is measured on an object instance, the result is four-counters record.

Observation counter name

Use the counter name to identify the type of counter. The counter measurements include screening names and either Cumulated value or the following fields:

- Cumulated value
- Maximum value
- Minimum value
- Number of events

The average value is computed by the NPO which is outside the eNodeB, by dividing the cumulated value by the Number of events.

The Cumulative counter has one value, while Value and Load counters have four values.

The associated counters are identified using an period (.) notation:

- *VS.<CounterName>*
  Example:
  VS.RadioLinkFailureSum
- *VS.<CounterName>.Cum*

Example:
VS.NbUeScheduledPerDLTTI.Cum

- *VS.<CounterName>.Max*
  Example:
  VS.NbUeScheduledPerDLTTI.Max

- *VS.<CounterName>.Min*
  Example:
  VS.NbUeScheduledPerDLTTI.Min

- *VS.<CounterName>.NbEvt*
  Example:
  VS.NbUeScheduledPerDLTTI.NbEvt

- *VS.<CounterName>.Avg*
  Example:
  VS.NbUeScheduledPerULTTI.Avg

- *VS.<CounterName>.<Screening>*
  Example:
  VS.InitialERABSetupRequest.QCI1

Managed object format

The managed objects contained in the observation record files are identified according to the 3GPP TS 32.300.

The following conventions are only used in the XML record file. For the NE identifiers used in file naming conventions, refer to the file naming convention for observations section.

A Distinguished Name (DN) is built as a series of comma-separated name components referred to as Relative Distinguished Names (RDN).

DN ::= RDN [',' RDN]*

The syntax of these name components is

RDN ::= className '=' identifierValue

There is no space between RDNs; the only possible separator is a comma (",").

> **Note:** The className element is not the name of the naming attribute but the name of the class. The *<identifierValue>* is processed as a string.

Observation file DTD versioning

The release of DTD used for the XML output is identified using the observation file.

The name of the DTD referred to in the XML document header includes the protocol name and the release of this DTD as shown in the following example:

```
<?xml version="1.0" standalone="no" ?>
```

```
<!DOCTYPE mdc SYSTEM "/opt/nortel/data/observation/32.401-02.dtd">
```

....

Performance Management Collector

Overview

Performance Management (PM) collection starts when the eNodeB is started. The PM data collector manages the PM data and also introduces the performance management framework to have enhanced PM capabilities. It retrieves the PM file from the eNodeB to the SAM. At the end of every granularity period, the eNodeB calculates PM results for the last granularity period and stores them in a file.

The performance collector provides the following functionality:

- It allows the collection of counter files from the equipment managed by SAM.

- It allows the mediation of collected counter files to make them available on the Northbound interface of the SAM system.

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Part II: Impacted Counters

Overview

Purpose

This part describes features introduced in LTE RAN LA6.0.1, CL1 and CL2 releases. The features are sorted by FRS, Feature name and a list of counters associated with this features.

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2 Release CL2

Overview

Purpose

This chapter provides a list of counters introduced, modified, and deleted in CL2 release.

Contents

Counters introduced in CL2

Counters

There are no new counters introduced in this release.

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Counters modified in CL2

Modified counters

- 160636 - Non_GBR prioritization
    – 12105 - Downlink RLC PDU Kbytes scrId 3 to 7
    – 12106 - Uplink RLC PDU Kbytes scrId 3 to 7
    – 12039 - Downlink PRB used per type of service scrId 3 to 7
    – 12040 - Uplink PRB used per type of service scrId 3 to 7
      This counter is introduced for bCEM only.
- 115929 - eRAB Counter Enhancements
    – 12635 - Number of abnormally released active SAE bearers

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Counters deleted in CL2

Deleted counters

There are no counters deleted in this release.

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3   Release CL1

Overview

Purpose

This chapter provides a list of counters introduced, modified, and deleted in CL1 release.

Contents

Counters introduced in CL1

Counters

There are no new counters introduced in this release.

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Counters modified in CL1

Modified counters

- 115223 - Inter-freq Load Balancing
    - 12794 - Evolved multi-carrier traffic allocation triggerscrId 1 and 2
    - 12890 - Outgoing inter-eNodeB S1 handover abort per handover reason scrId 1 and 2
    - 12891- Off-loading successscrId 1
    - 12892 - Off-loading failurescrId 1
    - 12893 - Outgoing inter-eNodeB X2 handover abort per handover reasonscrId 1 and 2
- 115241 - Overload Control Evolutions & QoS Differentiation on eNB Backplane
    - 12304 - RRC connection failure scrId 7
    - 12310 - RRC connection re-establishment failure scrId 11
    - 12603 - E-RAB setup failed scrId 6
    - 12614 - E-RAB modify failed scrId 7
    - 12705 - Intra-eNodeB handover failure scrId 14
    - 12713 - Incoming inter-eNodeB X2 handover failure scrId 25
    - 12727 - Incoming inter-eNodeB S1 handover failure scrId 19
    - 13219 - NPU CPU 1 utilization histogram
    - 13220 - eNodeB control CPU utilization histogram
    - 13221 - L1L2 control processor 1 CPU utilization histogram
    - 13222 - L2 processor 1 CPU utilization histogram
    - 13223 - L1L2 control processor 2 CPU utilization histogram
    - 13224 - L2 processor 2 CPU utilization histogram
    - 13225 - L1L2 control processor 3 CPU utilization histogram
    - 13226 - L2 processor 3 CPU utilization histogram
    - 13502 - S1 page attempts discarded scrId 2

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Counters deleted in CL1

Deleted counters

There are no counters deleted in this release.

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4 Release LA6.0.1

Overview

Purpose

This chapter provides a list of counters introduced, modified, and deleted in LA6.0.1 release.

Contents

Counters introduced in LA6.0.1

Counters

- 112791 - Transport counters
    - 13401 - SYNC messages received from primary grandmaster
    - 13402 - Announce messages received from primary grandmaster
    - 13403 - SYNC messages rejected from primary grandmaster
    - 13404 - Errored SYNC messages received from primary grandmaster
    - 13405 - SYNC messages received from secondary grandmaster
    - 13406 - Announce messages received from secondary grandmaster
    - 13407 - SYNC messages rejected from secondary grandmaster
    - 13408 - Errored SYNC messages received from secondary grandmaster
    - 13334 - VLAN traffic type uplink packets
    - 13335 - VLAN traffic type downlink packets
    - 13336 - VLAN traffic type uplink octets
    - 13337 - VLAN traffic type downlink octets
    - 13338 - VLAN uplink packets
    - 13339 - VLAN downlink packets
- 115627 - Performance Counter Enhancements
    - 12062 - Cell downlink throughput
    - 12320 - RRC connection success
    - 12321 - RRC connection setup without repetition
    - 12513 - Initial context setup response
    - 12124 - Downlink RLC burst time scrId 2 to 8
    - 12125 - Downlink RLC last TTI time scrId 2 to 8
    - 12126 - Downlink RLC burst size scrId 2 to 8
    - 12127 - Downlink RLC PDU size in last TTI scrId 2 to 8
- 160636 - Non_GBR prioritization
    - 12105 - Downlink RLC PDU Kbytes scrId 3 to 7
    - 12106 - Uplink RLC PDU Kbytes scrId 3 to 7
    - 12039 - Downlink PRB used per type of service scrId 3 to 7
    - 12040 - Uplink PRB used per type of service scrId 3 to 7
      This counter is introduced for bCEM only.

Counters modified in LA6.0.1

Modified counters

- 76500 - Lossless Intra-LTE Mobility
    - 12310 - RRC connection re-establishment failure
- 78713 - LA1.0 Product & System KPI(s)
    - 12304 - RRC connection failure

Counters deleted in LA6.0.1

Deleted counters

There are no counters deleted in this release.

Part III: eNodeB FDD counters

Overview

Purpose

This part describes the eNodeB counters based on the Counter family for FDD.

Contents

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5 Call Admission Control

Overview

Purpose

The following counters are generated to get information on Call Admission Control:

Contents

13801 - Call admission control request

This counter provides the number of times a request to start Call Admission Control procedure (CAC) for user admission, or SRB admission or TRB admission.

Counter Information	Counter Value/Description
Counter Code	13801
Counter Type	CUMULATE
Triggering (Event)	This counter is pegged when CAC checks are invoked by user admission, SRB admission or TRB admission. Take S1AP Handover request with two E-RABs as example, it is pegged with screening 'EmergencyCallAdmission' or 'NonEmergencyCallAdmission' for call admission. After CAC checks on call admission succeeds, it is pegged with screening 'SRBAdmission'. And CAC checks on SRB admission succeeds, it is pegged with screening 'LowPriorityTRBAdmission' or 'HighPriorityTRBAdmission' for the first E-RAB admission. And after CAC checks on this admission finishes, if the second E-RAB is checked, it is again pegged with screening 'LowPriorityTRBAdmission' or 'HighPriorityTRBAdmission' for the second E-RAB admission. Generally following cases are involved: - RRCConnectionRequest is received - RRCConnectionRequestComplete is received - X2/S1AP Handover Request is received - Intra-eNB inter-cell handover is triggered (target cell) - Intra-cell handover - RRCConnectionReestablishmentRequest is received - S1AP Initial Context Setup Request is received - S1AP E-RAB Setup Request is received - S1AP E-RAB Modify Request is received.
Subcounters	Type of admission. *#2: Description:* SRB admission. *Suffix 3GPP:* SRBAdmission *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Low priority TRB admission. *Suffix 3GPP:* LowPriorityTRBAdmission *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* High priority TRB admission. *Suffix 3GPP:* HighPriorityTRBAdmission *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
Subfamily	Optional counter group
Report group	Mandatory
3GPP name	VS.CACRequest
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

13802 - Call admission control failure

This counter provides the number of times a Call Admission Control procedure has failed.

Counter Information	Counter Value/Description
Counter Code	13802
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when Call Admission Control procedure for a call admission, or a SRB/TRB admission fails.
Subcounters	Failure cause. *#0: Description:* Lack of number of users per eNB for EC admission. *Suffix 3GPP:* LackOfNbOfUserPerEnbForECAdmission *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Lack of number of users per eNB for non-EC admission. *Suffix 3GPP:* LackOfNbOfUserPerEnbForNonECAdmission *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Lack of number of users per cell for EC admission. *Suffix 3GPP:* LackOfNbOfUserPerCellForECAdmission *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Lack of number of users per cell for non-EC admission. *Suffix 3GPP:* LackOfNbOfUserPerCellForNonECAdmission *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* Lack of number of modem UE context per cell. *Suffix 3GPP:* LackOfNbOfModemUeContextPerCell *Triggering Event:* Please refer to common triggering event (this is only checked for non-EC admission). *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: Lack of DL PRB license per band for SRB admission.
	Suffix 3GPP: LackOfDLPRBLicensePerBandForSRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Lack of UL PRB license per band for SRB admission.
	Suffix 3GPP: LackOfULPRBLicensePerBandForSRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Lack of DL PRB resource per cell for SRB admission.
	Suffix 3GPP: LackOfDLPRBResourcePerCellForSRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: Lack of UL PRB resource per cell for SRB admission.
	Suffix 3GPP: LackOfULPRBResourcePerCellForSRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Lack of number of data bearers per eNB.
	Suffix 3GPP: LackOfNbOfDBsPerEnb
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: Lack of number of data bearers per cell for high priority TRB admission.
	Suffix 3GPP: LackOfNbOfDBsPerCellForHighP-riorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#11: Description: Lack of number of data bearers per cell for low priority TRB admission.
	Suffix 3GPP: LackOfNbOfDBsPerCellForLowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#12: Description: Lack of number of data bearers per QCI group. A QCI group contains one or more QCIs. There is no limitation/restriction on the QCIs included in a group. Number of data bearer per QCI group is on cell level. QCI group is on eNodeB level in LA4.0.1.
	Suffix 3GPP: LackOfNbOfDBsPerQCIGroup
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#13: Description: Lack of number of VoIP data bearers per cell.
	Suffix 3GPP: LackOfNbOfVoipPerCell
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#14: Description: Lack of DL PRB license per band for high priority TRB admission.
	Suffix 3GPP: LackOfDLPRBLicensePerBandForHighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: Lack of UL PRB license per band for high priority TRB admission.
	Suffix 3GPP: LackOfULPRBLicensePerBandForHighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#16: Description: Lack of DL PRB license per band for low priority TRB admission.
	Suffix 3GPP: LackOfDLPRBLicensePerBandForLowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#17: Description: Lack of UL PRB license per band for low priority TRB admission.
	Suffix 3GPP: LackOfULPRBLicensePerBandFor-LowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#18: Description: Lack of DL PRB resource per cell for high priority TRB admission.
	Suffix 3GPP: LackOfDLPRBResourcePerCell-ForHighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#19: Description: Lack of UL PRB resource per cell for high priority TRB admission.
	Suffix 3GPP: LackOfULPRBResourcePerCell-ForHighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#20: Description: Lack of DL PRB resource per cell for low priority TRB admission.
	Suffix 3GPP: LackOfDLPRBResourcePerCell-ForLowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#21: Description: Lack of UL PRB resource per cell for low priority TRB admission.
	Suffix 3GPP: LackOfULPRBResourcePerCell-ForLowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Optional counter group
Report group	Mandatory
3GPP name	VS.CACFailure
Object Class	EutranCell
Range	0 to $2^{32}-1$

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Counter Information	Counter Value/Description
Unit	EVENT

13803 - VLAN transport call admission control failure on S1U

This counter provides for the concerned VLAN the number of times a Transport Call Admission Control procedure has failed (eRAB rejected) per CoS Basis.

Counter Information	Counter Value/Description
Counter Code	13803
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when Transport Call Admission Control procedure for a eRAB admission fails.
Subcounters	CoS.
	#0: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 1.
	Suffix 3GPP: CoS1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 2.
	Suffix 3GPP: CoS2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 3.
	Suffix 3GPP: CoS3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 4
	Suffix 3GPP: CoS4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 5.
	Suffix 3GPP: CoS5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#5: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 6. *Suffix 3GPP:* Cos6 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#6: Description:* for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 7 *Suffix 3GPP:* CoS7 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#7: Description:* for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 8. *Suffix 3GPP:* CoS8 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#8: Description:* for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 9. *Suffix 3GPP:* CoS9 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#9: Description:* for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 10. *Suffix 3GPP:* CoS10 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#10: Description:* for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 11. *Suffix 3GPP:* CoS11 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#11: Description:* for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 12. *Suffix 3GPP:* CoS12 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#12: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 13.
	Suffix 3GPP: CoS13
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#13: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 14.
	Suffix 3GPP: CoS14
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#14: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 15.
	Suffix 3GPP: CoS15
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: for the concerned VLAN, number of eRABs rejected for TAC admission for CoS 16.
	Suffix 3GPP: CoS16
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Transport Call Admission Control
Report group	Mandatory
3GPP name	VS.VlanTransportCACFailureOnS1u
Object Class	Vlan
Range	0 to 2^{32}-1
Unit	EVENT

13804 - Port transport call admission control failure on S1U

This counter provides the number of times a Call Admission Control procedure has failed.

Counter Information	Counter Value/Description
Counter Code	13804
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when Transport Call Admission Control procedure for a eRAB admission fails.
Subcounters	CoS. *#0: Description:* for the concerned port, number of eRABs rejected for TAC admission for CoS 1. *Suffix 3GPP:* CoS1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* for the concerned port, number of eRABs rejected for TAC admission for CoS 2. *Suffix 3GPP:* CoS2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* for the concerned port, number of eRABs rejected for TAC admission for CoS 3. *Suffix 3GPP:* CoS3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* for the concerned port, number of eRABs rejected for TAC admission for CoS 4 *Suffix 3GPP:* CoS4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* for the concerned port, number of eRABs rejected for TAC admission for CoS 5. *Suffix 3GPP:* CoS5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 6.
	Suffix 3GPP: Cos6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 7
	Suffix 3GPP: CoS7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 8.
	Suffix 3GPP: CoS8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 9.
	Suffix 3GPP: CoS9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 10.
	Suffix 3GPP: CoS10
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 11.
	Suffix 3GPP: CoS11
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#11: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 12.
	Suffix 3GPP: CoS12
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#12: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 13.
	Suffix 3GPP: CoS13
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#13: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 14.
	Suffix 3GPP: CoS14
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#14: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 15.
	Suffix 3GPP: CoS15
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: for the concerned port, number of eRABs rejected for TAC admission for CoS 16.
	Suffix 3GPP: CoS16
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Transport Call Admission Control
Report group	Mandatory
3GPP name	VS.PortTransportCACFailureOnS1u
Object Class	RanBackhaul
Range	0 to $2^{32}-1$
Unit	EVENT

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13805 - VLAN transport call admission control failure for emergency call on S1U

This counter provides the number of times a Transport Call Admission Control procedure has failed (eRAB rejected) for Emergency VoIP call.

Counter Information	Counter Value/Description
Counter Code	13805
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when Transport Call Admission Control procedure for a emergency eRAB admission fails.
Subcounters	Not defined
Subfamily	Transport Call Admission Control
Report group	Mandatory
3GPP name	VS.VlanTransportCACFailureForEmergencyCallOnS1u
Object Class	Vlan
Range	0 to 2^{32}-1
Unit	EVENT

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13806 - Port transport call admission control failure for emergency call on S1U

This counter provides the number of times a Transport Call Admission Control procedure has failed (eRAB rejected) for Emergency VoIP call.

Counter Information	Counter Value/Description
Counter Code	13806
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when Transport Call Admission Control procedure for a emergency eRAB admission fails.
Subcounters	Not defined
Subfamily	Transport Call Admission Control
Report group	Mandatory
3GPP name	VS.PortTransportCACFailureForEmergencyCallOnS1u
Object Class	RanBackhaul
Range	0 to $2^{32}-1$
Unit	EVENT

13807 - Call admission control request for PLMN

This counter provides the number of times a request to start Call Admission Control procedure (CAC) for user admission, or SRB admission or TRB admission for the concerned PLMN.

Counter Information	Counter Value/Description
Counter Code	13807
Counter Type	CUMULATE
Triggering (Event)	This counter is pegged when CAC checks are invoked by user admission, SRB admission or TRB admission. This happens on following triggers: - RRCConnectionRequest is received - RRCConnectionRequestComplete is received - X2/S1AP Handover Request is received - Intra-eNB inter-cell handover is triggered (target cell) - Intra-cell handover - RRCConnectionReestablishmentRequest is received - S1AP Initial Context Setup Request is received - S1AP E-RAB Setup Request is received - S1AP E-RAB Modify Request is received.
Subcounters	Type of admission.
	#2: Description: SRB admission.
	Suffix 3GPP: SRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Low priority TRB admission.
	Suffix 3GPP: LowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: High priority TRB admission.
	Suffix 3GPP: HighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Transport Call Admission Control
Report group	Mandatory
3GPP name	VS.CACRequestForPlmn
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT

13808 - Call admission control failure for PLMN

This counter provides the number of times a Call Admission Control procedure has failed for the concerned PLMN

Counter Information	Counter Value/Description
Counter Code	13808
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when Call Admission Control procedure for a call admission or a SRB/TRB admission fails.
Subcounters	Failure cause.
	#0: Description: Lack of number of users per PLMN per cell for EC admission.
	Suffix 3GPP: LackOfNbOfUserPerPlmnPerCellForECAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Lack of number of users per PLMN per cell for non-EC admission.
	Suffix 3GPP: LackOfNbOfUserPerPlmnPerCell-ForNonECAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Lack of DL PRB resource per PLMN per cell for SRB admission.
	Suffix 3GPP: LackOfDLPRBResourcePerPlmn-PerCellForSRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Lack of UL PRB resource per PLMN per cell for SRB admission.
	Suffix 3GPP: LackOfULPRBResourcePerPlmn-PerCellForSRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#4: Description: Lack of number of data bearers per PLMN per cell for high priority TRB admission.
	Suffix 3GPP: LackOfNbOfDBsPerPlmnPerCell-ForHighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Lack of number of data bearers per PLMN per cell for low priority TRB admission.
	Suffix 3GPP: LackOfNbOfDBsPerPlmnPerCell-ForLowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Lack of number of data bearers per PLMN per QCI group. A QCI group contains one or more QCIs. There is no limitation/restriction on the QCIs included in a group.
	Suffix 3GPP: LackOfNbOfDBsPerPlmnPerQCIGroup
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Lack of DL PRB resource per PLMN per cell for high priority TRB admission.
	Suffix 3GPP: LackOfDLPRBResourcePerPlmn-PerCellForHighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: Lack of UL PRB resource per PLMN per cell for high priority TRB admission.
	Suffix 3GPP: LackOfULPRBResourcePerPlmn-PerCellForHighPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Lack of DL PRB resource per PLMN per cell for low priority TRB admission.
	Suffix 3GPP: LackOfDLPRBResourcePerPlmn-PerCellForLowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#10: Description: Lack of UL PRB resource per PLMN per cell for low priority TRB admission.
	Suffix 3GPP: LackOfULPRBResourcePerPlmn-PerCellForLowPriorityTRBAdmission
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Transport Call Admission Control
Report group	Mandatory
3GPP name	VS.CACFailureForPlmn
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

6 Capacity

Overview

Purpose

The following counters are generated to get information on Capacity:

Contents

13201 - Number of UEs in or transitioning into RRC_CONNECTED state

This counter allows to have the averaged (by dividing the cumulated value by the elapsed time), maximum and minimum number of UE that are in or transitioning into RRC_CONNECTED state in the cell for the concerned PLMN.

Counter Information	Counter Value/Description
Counter Code	13201
Counter Type	LOAD
Triggering (Event)	The pegging of this counter is linked to procedures when CAC is accepted on context setup (+1) and when UE context is to be deleted (-1).
Subcounters	Not defined
Subfamily	RRC Connection
Report group	Mandatory
3GPP name	RRC.Conn
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

13204 - Number of VoIP bearers per cell per PLMN

This counter provides the average, maximum and minimum number of VoIP bearers established for the concerned PLMN in the cell. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13204
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a VoIP bearer is setup or released in the cell (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbVoIPBearersPerCellPerPlmn
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	Bearer

13205 - Number of GBR bearers per cell per PLMN

This counter provides the average, maximum and minimum number of GBR bearers established for the concerned PLMN in the cell (excluding VoIP bearers). The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13205
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a GBR bearer is setup or released in the cell (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbGBRBearersPerCellPerPlmn
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	Bearer

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13206 - Number of non-GBR bearers per cell per PLMN

This counter provides the average, maximum and minimum number of non-GBR bearers established for the concerned PLMN in the cell. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13206
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a non-GBR bearer is setup or released in the cell (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbNonGBRBearersPerCellPerPlmn
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	Bearer

13207 - Number of bearers per cell

This counter provides the average, maximum and minimum number of bearers in the cell. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13207
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a bearer is setup or released in the cell (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbBearersPerCell
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	Bearer

13208 - Number of VoIP bearers per eNodeB

This counter provides the average, maximum and minimum number of VoIP bearers in the eNodeB. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13208
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a VoIP bearer is setup or released in the eNodeB (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbVoIPBearersPerENodeB
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	Bearer

13209 - Number of GBR bearers per eNodeB

This counter provides the average, maximum and minimum number of GBR bearers in the eNodeB (excluding VoIP bearers). The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13209
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a GBR bearer is setup or released in the eNodeB (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbGBRBearersPerENodeB
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Bearer

13210 - Number of non-GBR bearers per eNodeB

This counter provides the average, maximum and minimum number of non-GBR bearers in the eNodeB. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13210
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a non-GBR bearer is setup or released in the eNodeB (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbNonGBRBearersPerENodeB
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Bearer

13211 - Number of bearers per eNodeB

This counter provides the average, maximum and minimum number of bearers in the eNodeB. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13211
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a bearer is setup or released in the eNodeB (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the CAC).
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbBearersPerENodeB
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Bearer

13212 - Number of active users per eNodeB

This counter provides the average, maximum and minimum number of active users in the eNodeB. The average value is obtained by dividing the cumulative value by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13212
Counter Type	LOAD
Triggering (Event)	The pegging of this counter is linked to procedures when CAC is accepted on context setup (+1) and when UE context is to be deleted (-1).
Subcounters	Not defined
Subfamily	Users
Report group	Mandatory
3GPP name	VS.NbActiveUsersPerENodeB
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	User

13213 - Downlink PRBs pool overload screened

This counter is a value counter with sampling on event occurence. On each event occurence: - The sample value is set to the percentage of the downlink PRBs pool occupancy if this percentage is above the MIM parameter DlAdmissionThreshold in RadioCacCellMO. This counter provides the averaged (by dividing the cumulated value by the elapsed time), maximum and minimum percentage of the downlink PRBs pool occupancy when this pool is in overload.

Counter Information	Counter Value/Description
Counter Code	13213
Counter Type	VALUE
Triggering (Event)	This counter is triggered each time that (the consumption pool has been updated when measurements were reported from modem and the DL PRB Pool occupancy is above the MIM parameter DlAdmissionThreshold in RadioCacCellMO) OR (Call Admission Control has been performed on new call or bearer admission on the cell and failed due to lack of PRB resource ' DL PRB Pool occupancy is above the MIM parameter DlAdmissionThreshold in RadioCacCellMO). The screening updated depends on the triggering event.
Subcounters	Type of Event. *#0: Description:* The consumption pool has been updated when measurements were reported from modem. *Suffix 3GPP:* ModemReport *Triggering Event:* Modem report received and the DL PRB Pool occupancy is above the MIM parameter DlAdmissionThreshold in RadioCacCellMO. *Report group:* Mandatory *#1: Description:* Call Admission Control has been performed on new call or bearer admission on the cell. *Suffix 3GPP:* CAC *Triggering Event:* Call Admission Control has been performed on new call or bearer admission on the cell and failed due to lack of PRB resource ' DL PRB Pool occupancy is above the MIM parameter DlAdmissionThreshold in RadioCacCellMO. *Report group:* Mandatory
Subfamily	Physical Resource Block
Report group	Mandatory

Counter Information	Counter Value/Description
3GPP name	VS.DLPRBsPoolOverloadScreened
Object Class	EutranCell
Range	0 to 100
Unit	%

13214 - Uplink PRBs pool overload screened

This counter is a value counter with sampling on event occurence. On each event occurence: - The sample value is set to the percentage of the uplink PRBs pool occupancy if this percentage is above the MIM parameter DlAdmissionThreshold in RadioCacCellMO. This counter provides the averaged (by dividing the cumulated value by the elapsed time), maximum and minimum percentage of the uplink PRBs pool occupancy when this pool is in overload.

Counter Information	Counter Value/Description
Counter Code	13214
Counter Type	VALUE
Triggering (Event)	This counter is triggered each time that (the consumption pool has been updated when measurements were reported from modem and the UL PRB Pool occupancy is above the MIM parameter UlAdmissionThreshold in RadioCacCellMO) OR (Call Admission Control has been performed on new call or bearer admission on the cell and failed due to lack of PRB resource ' UL PRB Pool occupancy is above the MIM parameter UlAdmissionThreshold in RadioCacCellMO). The screening updated depends on the triggering event.
Subcounters	Type of Event. *#0: Description:* The consumption pool has been updated when measurements were reported from modem. *Suffix 3GPP:* ModemReport *Triggering Event:* Modem report received and the UL PRB Pool occupancy is above the MIM parameter UlAdmissionThreshold in RadioCacCellMO. *Report group:* Mandatory *#1: Description:* Call Admission Control has been performed on new call or bearer admission on the cell. *Suffix 3GPP:* CAC *Triggering Event:* Call Admission Control has been performed on new call or bearer admission on the cell and failed due to lack of PRB resource ' UL PRB Pool occupancy is above the MIM parameter UlAdmissionThreshold in RadioCacCellMO. *Report group:* Mandatory
Subfamily	Physical Resource Block
Report group	Mandatory

Counter Information	Counter Value/Description
3GPP name	VS.ULPRBsPoolOverloadScreened
Object Class	EutranCell
Range	0 to 100
Unit	%

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13217 - Number of bearers per cell per QCI per PLMN

This counter provides the average, maximum and minimum number of bearers established for the concerned PLMN in the cell. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13217
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a bearer is setup or released in the cell (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the Call Admission control (CAC) procedure.
Subcounters	E-RAB QCI. *#0: Description:* QCI 1 bearer. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 bearer. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 bearer. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 bearer. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 bearer. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 bearer.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 bearer.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 bearer.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 bearer.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs bearer.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbBearersPerCellPerQCIPerPlmn
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	Bearer

13218 - Number of bearers per eNodeB per QCI

This counter provides the average, maximum and minimum number of bearers in the eNodeB. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13218
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a bearer is setup or released in the eNodeB (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the Call Admission Control (CAC) procedure.
Subcounters	E-RAB QCI. *#0: Description:* QCI 1 bearer. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 bearer. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 bearer. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 bearer. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 bearer. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 bearer.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 bearer.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 bearer.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 bearer.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs bearer.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbBearersPerENodeBPerQCI
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	Bearer

13219 - NPU CPU 1 utilization histogram

This counter provides the CPU utilization histogram for the Network Processor Unit of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13219
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter .
Subcounters	CPU Utilization. *#0: Description:* Network Processor Unit CPU usage from 0% to less than 50%. *Suffix 3GPP:* 0LeCpuLt50 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Network Processor Unit CPU usage from 50% to less than 70%. *Suffix 3GPP:* 50LeCpuLt70 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Network Processor Unit CPU usage from 70% to less than 80%. *Suffix 3GPP:* 70LeCpuLt80 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Network Processor Unit CPU usage from 80% to less than 85%. *Suffix 3GPP:* 80LeCpuLt85 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: Network Processor Unit CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Network Processor Unit CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Network Processor Unit CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Network Processor Unit CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.NpuCpu1UtilizationHistogram
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	Network Processor Unit: eCCM Winpath - D2U physical slot ID: 1.

13220 - eNodeB control CPU utilization histogram

This counter provides the CPU utilization histogram for the Control Processor Unit of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13220
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter.
Subcounters	CPU Utilization.
	#0: Description: ENodeB control CPU usage from 0% to less than 50%.
	Suffix 3GPP: 0LeCpuLt50
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: ENodeB control CPU usage from 50% to less than 70%.
	Suffix 3GPP: 50LeCpuLt70
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: ENodeB control CPU usage from 70% to less than 80%.
	Suffix 3GPP: 70LeCpuLt80
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: ENodeB control CPU usage from 80% to less than 85%.
	Suffix 3GPP: 80LeCpuLt85
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

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Counter Information	Counter Value/Description
	#4: Description: ENodeB control CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: ENodeB control CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: ENodeB control CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: ENodeB control CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.ENodeBControlCpuUtilizationHistogram
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT
Notes	eNodeB CPU: eCCM PQ3 processor - D2U physical slot ID: 1.

13221 - L1L2 control processor 1 CPU utilization histogram

This counter provides the CPU utilization histogram for the L1L2 control processor 1 of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13221
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter.
Subcounters	CPU Utilization. *#0: Description:* L1L2 control processor 1 CPU usage from 0% to less than 50%. *Suffix 3GPP:* 0LeCpuLt50 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* L1L2 control processor 1 CPU usage from 50% to less than 70%. *Suffix 3GPP:* 50LeCpuLt70 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* L1L2 control processor 1 CPU usage from 70% to less than 80%. *Suffix 3GPP:* 70LeCpuLt80 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* L1L2 control processor 1 CPU usage from 80% to less than 85%. *Suffix 3GPP:* 80LeCpuLt85 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: L1L2 control processor 1 CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: L1L2 control processor 1 CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: L1L2 control processor 1 CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: L1L2 control processor 1 CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor1CpuUtilizationHistogram
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT
Notes	L1L2 control processor 1 CPU: eCEM PQ2 processor / in LA5.0 P4080 core 0 of bCEM1 - D2U physical slot ID: 2. Default value for polling frequency is 300ms.

13222 - L2 processor 1 CPU utilization histogram

This counter provides the CPU utilization histogram for the L2 processor 1 of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13222
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter.
Subcounters	CPU Utilization. *#0: Description:* L2 processor 1 CPU usage from 0% to less than 50%. *Suffix 3GPP:* 0LeCpuLt50 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* L2 processor 1 CPU usage from 50% to less than 70%. *Suffix 3GPP:* 50LeCpuLt70 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* L2 processor 1 CPU usage from 70% to less than 80%. *Suffix 3GPP:* 70LeCpuLt80 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* L2 processor 1 CPU usage from 80% to less than 85%. *Suffix 3GPP:* 80LeCpuLt85 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: L2 processor 1 CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: L2 processor 1 CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: L2 processor 1 CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: L2 processor 1 CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.L2Processor1CpuUtilizationHistogram
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	L2 processor 1 CPU: eCEM PQ3 processor / in LA5.0 max value of P4080 core 1-7 CPU usage statistics on BCEM1 - D2U physical slot ID: 2. Default value for polling frequency is 300ms.

13223 - L1L2 control processor 2 CPU utilization histogram

This counter provides the CPU utilization histogram for the L1L2 control processor 2 of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13223
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter.
Subcounters	CPU Utilization. *#0: Description:* L1L2 control processor 2 CPU usage from 0% to less than 50%. *Suffix 3GPP:* 0LeCpuLt50 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* L1L2 control processor 2 CPU usage from 50% to less than 70%. *Suffix 3GPP:* 50LeCpuLt70 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* L1L2 control processor 2 CPU usage from 70% to less than 80%. *Suffix 3GPP:* 70LeCpuLt80 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* L1L2 control processor 2 CPU usage from 80% to less than 85%. *Suffix 3GPP:* 80LeCpuLt85 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: L1L2 control processor 2 CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: L1L2 control processor 2 CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: L1L2 control processor 2 CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: L1L2 control processor 2 CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor2CpuUtilizationHistogram
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT
Notes	L1L2 control processor 2 CPU: eCEM PQ2 processor / in LA5.0 P4080 core 0 of bCEM2 - D2U physical slot ID: 3. Default value for polling frequency is 300ms.

13224 - L2 processor 2 CPU utilization histogram

This counter provides the CPU utilization histogram for the L2 processor 2 of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13224
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter.
Subcounters	CPU Utilization. *#0: Description:* L2 processor 2 CPU usage from 0% to less than 50%. *Suffix 3GPP:* 0LeCpuLt50 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* L2 processor 2 CPU usage from 50% to less than 70%. *Suffix 3GPP:* 50LeCpuLt70 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* L2 processor 2 CPU usage from 70% to less than 80%. *Suffix 3GPP:* 70LeCpuLt80 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* L2 processor 2 CPU usage from 80% to less than 85%. *Suffix 3GPP:* 80LeCpuLt85 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: L2 processor 2 CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: L2 processor 2 CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: L2 processor 2 CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: L2 processor 2 CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.L2Processor2CpuUtilizationHistogram
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT
Notes	L2 processor 2 CPU: eCEM PQ3 processor / in LA5.0 max value of P4080 core 1-7 CPU usage statistics on BCEM2 - D2U physical slot ID: 3. Default value for polling frequency is 300ms.

13225 - L1L2 control processor 3 CPU utilization histogram

This counter provides the CPU utilization histogram for the L1L2 control processor 3 of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13225
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter.
Subcounters	CPU Utilization. *#0: Description:* L1L2 control processor 3 CPU usage from 0% to less than 50%. *Suffix 3GPP:* 0LeCpuLt50 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* L1L2 control processor 3 CPU usage from 50% to less than 70%. *Suffix 3GPP:* 50LeCpuLt70 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* L1L2 control processor 3 CPU usage from 70% to less than 80%. *Suffix 3GPP:* 70LeCpuLt80 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* L1L2 control processor 3 CPU usage from 80% to less than 85%. *Suffix 3GPP:* 80LeCpuLt85 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: L1L2 control processor 3 CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: L1L2 control processor 3 CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: L1L2 control processor 3 CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: L1L2 control processor 3 CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor3CpuUtilizationHistogram
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	L1L2 control processor 3 CPU: eCEM PQ2 processor / in LA5.0 P4080 core 0 of bCEM3. - D2U physical slot ID: 4. Default value for polling frequency is 300ms.

13226 - L2 processor 3 CPU utilization histogram

This counter provides the CPU utilization histogram for the L2 processor 3 of the eNodeB. Every time the overload control updates its view of the average CPU utilization in order to decide which overload state to be in, the average utilization is used to select a bin from the vector and that bin is incremented.

Counter Information	Counter Value/Description
Counter Code	13226
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered with the polling frequency defined by an internal eNodeB parameter.
Subcounters	CPU Utilization. *#0: Description:* L2 processor 3 CPU usage from 0% to less than 50%. *Suffix 3GPP:* 0LeCpuLt50 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* L2 processor 3 CPU usage from 50% to less than 70%. *Suffix 3GPP:* 50LeCpuLt70 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* L2 processor 3 CPU usage from 70% to less than 80%. *Suffix 3GPP:* 70LeCpuLt80 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* L2 processor 3 CPU usage from 80% to less than 85%. *Suffix 3GPP:* 80LeCpuLt85 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: L2 processor 3 CPU usage from 85% to less than 90%.
	Suffix 3GPP: 85LeCpuLt90
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: L2 processor 3 CPU usage from 90% to less than 95%.
	Suffix 3GPP: 90LeCpuLt95
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: L2 processor 3 CPU usage from 95% to less than 100%.
	Suffix 3GPP: 95LeCpuLt100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: L2 processor 3 CPU usage of 100%
	Suffix 3GPP: Cpu100
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	CPU
Report group	Mandatory
3GPP name	VS.L2Processor3CpuUtilizationHistogram
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT
Notes	L2 processor 3 CPU: eCEM PQ3 processor / in LA5.0 max value of P4080 core 1-7 CPU usage statistics on BCEM3 - D2U physical slot ID: 4. Default value for polling frequency is 300ms.

13227 - Network processor unit memory utilization

This counter provides the average, minimum and maximum memory utilization for the Network Processor Unit of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13227
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.NetworkProcessorUnitMemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	Network Processor Unit: eCCM Winpath - D2U physical slot ID: 1.

13228 - eNodeB control memory utilization

This counter provides the average, minimum and maximum memory utilization for the control processor unit of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13228
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.ENodeBControlMemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	eNodeB CPU: eCCM PQ3 processor - D2U physical slot ID: 1.

13229 - L1L2 control processor 1 memory utilization

This counter provides the average, minimum and maximum memory utilization for the L1L2 control processor 1 of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13229
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor1MemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	L1L2 control processor 1: eCEM PQ2 processor / in LA5.0 P4080 core 0 of bCEM1 - D2U physical slot ID: 2.

13230 - L2 processor 1 memory utilization

This counter provides the average, minimum and maximum memory utilization for L2 processor 1 of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13230
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.L2Processor1MemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	L2 processor 1: eCEM PQ3 processor / not reported in LA5.0 for bCEM - D2U physical slot ID: 2.

13231 - L1L2 control processor 2 memory utilization

This counter provides the average, minimum and maximum memory utilization for the L1L2 control processor 2 of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13231
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor2MemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	L1L2 control processor 2: eCEM PQ2 processor / in LA5.0 P4080 core 0 of bCEM2 - D2U physical slot ID: 3.

13232 - L2 processor 2 memory utilization

This counter provides the average, minimum and maximum memory utilization for the L2 processor 2of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13232
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.L2Processor2MemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	L2 processor 2: eCEM PQ3 processor / not reported in LA5.0 for bCEM - D2U physical slot ID: 3.

13233 - L1L2 control processor 3 memory utilization

This counter provides the average, minimum and maximum memory utilization for the L1L2 control processor 3 of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13233
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor3MemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	L1L2 control processor 3: eCEM PQ2 processor / in LA5.0 P4080 core 0 of bCEM3 - D2U physical slot ID: 4.

13234 - L2 processor 3 memory utilization

This counter provides the average, minimum and maximum memory utilization for the L2 processor 3 of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13234
Counter Type	VALUE
Triggering (Event)	This counter is triggered with the polling frequency defined by internal eNodeB parameter .
Subcounters	Not defined
Subfamily	Memory
Report group	Mandatory
3GPP name	VS.L2Processor3MemoryUtilization
Object Class	ENBEquipment
Range	0 to 100
Unit	%
Notes	L2 processor 3: eCEM PQ3 processor / not reported in LA5.0 for bCEM - D2U physical slot ID: 4.

13235 - eNodeB control overload status change

This counter provides number of overload Status change.

Counter Information	Counter Value/Description
Counter Code	13235
Counter Type	CUMULATE
Triggering (Event)	The counter is incremented when the system comes into minor, major, critical state.
Subcounters	Overload status. *#0: Description:* Number of time in minor overload state *Suffix 3GPP:* OverloadChangeMinor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of time in major overload state *Suffix 3GPP:* OverloadChangeMajor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of time in critical overload state *Suffix 3GPP:* OverloadChangeCritical *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.ENodeBControlOverloadStatusChange
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT
Notes	tbc: no counter for none overload

13236 - eNodeB control duration in gradual overload situation

This counter provides the duration of overload for each status.

Counter Information	Counter Value/Description
Counter Code	13236
Counter Type	CUMULATE
Triggering (Event)	Overload status change and periodic each 1mn. The counter is incremented with the time between the trigger event and the last one.
Subcounters	Overload status. *#0: Description:* Duration of minor overload state. *Suffix 3GPP:* OverloadDurationMinor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Duration of major overload state. *Suffix 3GPP:* OverloadDurationMajor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Duration of critical overload state. *Suffix 3GPP:* OverloadDurationCritical *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.ENodeBControlDurationInGradualOverloadSituation
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	second
Notes	tbc: no counter for none overload. tbc: periodicity 5mn.

13237 - Number of bearers per VLAN per CoS on S1U

This counter provides the average, maximum and minimum number of bearers per CoS in a VLAN. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13237
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a bearer is setup or released in a VLAN (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the Call Admission Control (CAC) procedure.
Subcounters	CoS. *#0: Description:* CoS 1 bearer. *Suffix 3GPP:* CoS1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* CoS 2 bearer. *Suffix 3GPP:* CoS2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* CoS 3 bearer. *Suffix 3GPP:* CoS3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* CoS 4 bearer. *Suffix 3GPP:* CoS4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* CoS 5 bearer. *Suffix 3GPP:* CoS5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

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Counter Information	Counter Value/Description
	#5: Description: CoS 6 bearer.
	Suffix 3GPP: CoS6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: CoS 7 bearer.
	Suffix 3GPP: CoS7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: CoS 8 bearer.
	Suffix 3GPP: CoS8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: CoS 9 bearer.
	Suffix 3GPP: CoS9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: CoS 10 bearer.
	Suffix 3GPP: CoS10
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: CoS 11 bearer.
	Suffix 3GPP: CoS11
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#11: Description: CoS 12 bearer.
	Suffix 3GPP: CoS12
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#12: Description: CoS 13 bearer.
	Suffix 3GPP: CoS13
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#13: Description: CoS 14 bearer.
	Suffix 3GPP: CoS14
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#14: Description: CoS 15 bearer.
	Suffix 3GPP: CoS15
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: CoS 16 bearer.
	Suffix 3GPP: CoS16
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbBearersPerVlanPerCoSOnS1u
Object Class	Vlan
Range	0 to 2^{32}-1
Unit	Bearer

13238 - Number of bearers per port per CoS on S1U

This counter provides the average, maximum and minimum number of bearers per port per CoS. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13238
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a bearer is setup or released in a port (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the Call Admission Control (CAC) procedure.
Subcounters	COS. *#0: Description:* CoS 1 bearer. *Suffix 3GPP:* CoS1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* CoS 2 bearer. *Suffix 3GPP:* CoS2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* CoS 3 bearer. *Suffix 3GPP:* CoS3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* CoS 4 bearer. *Suffix 3GPP:* CoS4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* CoS 5 bearer. *Suffix 3GPP:* CoS5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: CoS 6 bearer.
	Suffix 3GPP: CoS6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: CoS 7 bearer.
	Suffix 3GPP: CoS7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: CoS 8 bearer.
	Suffix 3GPP: CoS8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: CoS 9 bearer.
	Suffix 3GPP: CoS9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: CoS 10 bearer.
	Suffix 3GPP: CoS10
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: CoS 11 bearer.
	Suffix 3GPP: CoS11
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#11: Description: CoS 12 bearer.
	Suffix 3GPP: CoS12
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#12: Description: CoS 13 bearer.
	Suffix 3GPP: CoS13
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#13: Description: CoS 14 bearer.
	Suffix 3GPP: CoS14
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#14: Description: CoS 15 bearer.
	Suffix 3GPP: CoS15
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: CoS 16 bearer.
	Suffix 3GPP: CoS16
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbBearersPerPortPerCoSOnS1u
Object Class	RanBackhaul
Range	0 to 2^{32}-1
Unit	Bearer

13239 - Number of voice emergency bearers per VLAN for CoS VoIP on S1U

This counter provides the average, maximum and minimum number of Emergency bearers per CoS in a VLAN. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13239
Counter Type	LOAD
Triggering (Event)	This counter is triggered when a bearer is setup or released in a VLAN (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the Call Admission Control (CAC) procedure.
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbVoiceEmergencyBearersPerVlanForCoSVoIPOnS1u
Object Class	Vlan
Range	0 to 2^{32}-1
Unit	Bearer

13240 - Number of voice emergency bearers per port for CoS VoIP on S1U

This counter provides the average, maximum and minimum number of Emergency bearers per CoS in a VLAN. The average value is obtained by dividing the cumulative value of the bearers by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	13240
Counter Type	LOAD
Triggering (Event)	This counter is triggered when an emergency bearer is setup or released in a port (successful or with partial failures procedures, EPC-initiated procedures, incoming and outgoing mobilty procedures and generally all procedures involved in E-RABs setup and E-RABs release may trigger this counter when performing the transport Call Admission Control (CAC) procedure.
Subcounters	Not defined
Subfamily	Bearers
Report group	Mandatory
3GPP name	VS.NbVoiceEmergencyBearersPerPortForCoSVoIPOnS1u
Object Class	RanBackhaul
Range	0 to 2^{32}-1
Unit	Bearer

13241 - L1L2 control processor 1 overload status change

This counter provides number of overload Status change for L1L2 control processor 1.

Counter Information	Counter Value/Description
Counter Code	13241
Counter Type	CUMULATE
Triggering (Event)	The counter is incremented when the L1L2 control processor 2 comes into minor, major or critical state.
Subcounters	Overload status. *#0: Description:* Number of time in minor overload state *Suffix 3GPP:* OverloadChangeMinor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of time in major overload state *Suffix 3GPP:* OverloadChangeMajor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of time in critical overload state *Suffix 3GPP:* OverloadChangeCritical *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor1OverloadStatusChange
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	tbc: no counter for none overload

13242 - L1L2 control processor 1 duration in gradual overload situation

This counter provides the duration of overload for each status for L1L2 control processor 1.

Counter Information	Counter Value/Description
Counter Code	13242
Counter Type	CUMULATE
Triggering (Event)	Overload status change for L1L2 control processor 1 and periodic each 1mn. The counter is incremented with the time between the trigger event and the last one.
Subcounters	Overload status. *#0: Description:* Duration of minor overload state. *Suffix 3GPP:* OverloadDurationMinor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Duration of major overload state. *Suffix 3GPP:* OverloadDurationMajor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Duration of critical overload state. *Suffix 3GPP:* OverloadDurationCritical *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor1DurationInGradualOverloadSituation
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	second
Notes	tbc: no counter for none overload. tbc: periodicity 5mn.

13243 - L1L2 control processor 2 overload status change

This counter provides number of overload Status change for L1L2 control processor 2.

Counter Information	Counter Value/Description
Counter Code	13243
Counter Type	CUMULATE
Triggering (Event)	The counter is incremented when the L1L2 control processor 2 comes into minor, major or critical state.
Subcounters	Overload status. *#0: Description:* Number of time in minor overload state *Suffix 3GPP:* OverloadChangeMinor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of time in major overload state *Suffix 3GPP:* OverloadChangeMajor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of time in critical overload state *Suffix 3GPP:* OverloadChangeCritical *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor2OverloadStatusChange
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT
Notes	tbc: no counter for none overload

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13244 - L1L2 control processor 2 duration in gradual overload situation

This counter provides the duration of overload for each status for L1L2 control processor 2.

Counter Information	Counter Value/Description
Counter Code	13244
Counter Type	CUMULATE
Triggering (Event)	Overload status change for L1L2 control processor 2 and periodic each 1mn. The counter is incremented with the time between the trigger event and the last one.
Subcounters	Overload status.
	#0: Description: Duration of minor overload state.
	Suffix 3GPP: OverloadDurationMinor
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Duration of major overload state.
	Suffix 3GPP: OverloadDurationMajor
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Duration of critical overload state.
	Suffix 3GPP: OverloadDurationCritical
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor2DurationInGradualOverloadSituation
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	second
Notes	tbc: no counter for none overload. tbc: periodicity 5mn.

13245 - L1L2 control processor 3 overload status change

This counter provides number of overload Status change for L1L2 control processor 3.

Counter Information	Counter Value/Description
Counter Code	13245
Counter Type	CUMULATE
Triggering (Event)	The counter is incremented when the L1L2 control processor 3 comes into minor, major or critical state.
Subcounters	Overload status. *#0: Description:* Number of time in minor overload state *Suffix 3GPP:* OverloadChangeMinor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of time in major overload state *Suffix 3GPP:* OverloadChangeMajor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of time in critical overload state *Suffix 3GPP:* OverloadChangeCritical *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor3OverloadStatusChange
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	tbc: no counter for none overload

13246 - L1L2 control processor 3 duration in gradual overload situation

This counter provides the duration of overload for each status for L1L2 control processor 3.

Counter Information	Counter Value/Description
Counter Code	13246
Counter Type	CUMULATE
Triggering (Event)	Overload status change for L1L2 control processor 3 and periodic each 1mn. The counter is incremented with the time between the trigger event and the last one.
Subcounters	Overload status. *#0: Description:* Duration of minor overload state. *Suffix 3GPP:* OverloadDurationMinor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Duration of major overload state. *Suffix 3GPP:* OverloadDurationMajor *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Duration of critical overload state. *Suffix 3GPP:* OverloadDurationCritical *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Overload
Report group	Mandatory
3GPP name	VS.L1L2ControlProcessor3DurationInGradualOverloadSituation
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	second
Notes	tbc: no counter for none overload. tbc: periodicity 5mn.

7   Counter reporting information

Overview

Purpose

The following counters are generated to get information on Counter reporting information:

Contents

12201 - Counter reporting information

This counter provides on the interface to EMS, the information that the counters belonging to a report group are reported or not by the eNodeB, because the related feature is activated or not activated. This counter is screened per report group.

Counter Information	Counter Value/Description
Counter Code	12201
Counter Type	CUMULATE
Triggering (Event)	This counter is pegged when a report group is disabled or enabled on the eNodeB. The sampling period is 5 minutes. The sample value is 0 or 1 depending on the feature enablement on the eNodeB at the sampling time. The cumulative value is depending on the granularity period.
Subcounters	Report Group. *#0: Description:* Sample value 0 when the report group 'GeranOrUtran' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* GeranOrUtran *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Sample value 0 when the report group 'HRPDOr1xRTT' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* HRPDOr1xRtt *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Sample value 0 when the report group 'SpecificTDD' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* SpecificTDD *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Sample value 0 when the report group 'SpecificFDD' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* SpecificFDD *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: Sample value 0 when the report group 'TrafficShaping' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: TrafficShaping
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Sample value 0 when the report group 'MBMS' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: MBMS
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Sample value 0 when the report group 'Spare1' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: Spare1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Sample value 0 when the report group 'Spare2' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: Spare2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Optional counter group
Report group	Mandatory
3GPP name	VS.CounterReportingInformation
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	N/A

12202 - Report group customer selection

This counter provides on the interface to EMS, the information that the counters belonging to a report group are reported or not by the eNodeB depeding on the customer selection. This counter is screened per report group.

Counter Information	Counter Value/Description
Counter Code	12202
Counter Type	CUMULATE
Triggering (Event)	This counter is pegged when a report group is disabled or enabled on the eNodeB.
Subcounters	Report Group. *#0: Description:* Value 0 when the report group 'MobilityFailure' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* MobilityFailure *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Value 0 when the report group 'PDV' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* PDV *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Value 0 when the report group 'RRCConnection' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* RRCConnection *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Value 0 when the report group 'UEContext' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* UEContext *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* Value 0 when the report group 'ULNoise' is disabled on the eNodeB, value 1 when enabled. *Suffix 3GPP:* ULNoise *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: Sample value 0 when the report group 'ServiceFailure' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: ServiceFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Value 0 when the report group 'PerPRBMeasurement' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: PerPRBMeasurement
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Value 0 when the report group 'CustomerSpare1' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: CustomerSpare1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: Value 0 when the report group 'CustomerSpare2' is disabled on the eNodeB, value 1 when enabled.
	Suffix 3GPP: CustomerSpare2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Optional counter group
Report group	Mandatory
3GPP name	VS.ReportGroupCustomerSelection
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	N/A

8 E-RAB management

Overview

Purpose

The following counters are generated to get information on E-RAB management:

Contents

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12603 - E-RAB setup failed

This counter provides the number of E-RAB Setup procedures that have been failed for the causes used as screening criteria.

Counter Information	Counter Value/Description
Counter Code	12603
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an E-RAB SETUP RESPONSE is sent without an E-RAB Setup List and with an E-RAB Failed to Setup list, with one of the causes used as screening criteria.
Subcounters	Failure cause.
	#0: Description: CAC failure for all E-RABs to setup requested (lack of resource). The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: CACFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Internal eNodeB failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: RRC reconfiguration refused by the UE.
	Suffix 3GPP: RRCConnectionReestablishment
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Timeout (no answer from the UE).
	Suffix 3GPP: Timeout
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: E-RAB Context allocation failure.
	Suffix 3GPP: ERABContextAllocationFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#5: Description: Interaction with another procedure.
	Suffix 3GPP: InteractionWithOtherProcedure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Failure due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Setup Procedure
Report group	Mandatory
3GPP name	VS.ERABSetupFailed
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12604 - Initial E-RAB setup request

This counter provides the number of initial E-RAB establishment requests received from the MME. Several screenings can be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12604
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP INITIAL CONTEXT SETUP REQUEST message is received.
Subcounters	Requested QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 requested. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 requested. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#5: Description:* QCI 6 requested. *Suffix 3GPP:* QCI6 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	SAEB.EstabInitAttNbr
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12605 - Initial E-RAB setup success

This counter provides the number of initial E-RAB establishment that have succeeded. Remark: In LA1.x releases, 'partial' failure is not supported. That is, if at least one E-RAB cannot be established, then none of the others is established. A response message sent to the MME reports this status. From LA2.0, 'partial failure' is supported. That is, some E-RAB may be established and some other may be not established. Several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12605
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when INITIAL CONTEXT SETUP RESPONSE message is sent.
Subcounters	Requested QCI.
	#0: Description: QCI 1 requested.
	Suffix 3GPP: QCI1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: QCI 2 requested.
	Suffix 3GPP: QCI2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: QCI 3 requested.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: QCI 4 requested.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: QCI 5 requested.
	Suffix 3GPP: QCI5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	SAEB.EstabInitSuccNbr
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12606 - Additional E-RAB setup request

This counter provides the number of additional E-RAB establishment requests received from the MME. Remark: In LA1.x releases, 'partial' failure is not supported. That is, if at least one E-RAB cannot be established, then none of the others is established. A response message sent to the MME reports this status. From LA2.0, 'partial failure' is supported. That is, some E-RAB may be established and some other may be not established. Several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12606
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an E-RAB SETUP REQUEST message is received.
Subcounters	Requested QCI.
	#0: Description: QCI 1 requested.
	Suffix 3GPP: QCI1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: QCI 2 requested.
	Suffix 3GPP: QCI2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: QCI 3 requested.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: QCI 4 requested.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: QCI 5 requested.
	Suffix 3GPP: QCI5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	SAEB.EstabAddAttNbr
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12607 - Additional E-RAB setup success

This counter provides the number of additional E-RAB establishment that succeeded. Remark: In LA1.x releases, 'partial' failure is not supported. That is, if at least one E-RAB cannot be established, then none of the others is established. A response message sent to the MME reports this status. From LA2.0, 'partial failure' is supported. That is, some E-RAB may be established and some other may be not established. Several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12607
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an E-RAB SETUP RESPONSE message is sent indicating that at least one requested E-RABs have been established.
Subcounters	Requested QCI.
	#0: Description: QCI 1 requested.
	Suffix 3GPP: QCI1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: QCI 2 requested.
	Suffix 3GPP: QCI2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: QCI 3 requested.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: QCI 4 requested.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: QCI 5 requested.
	Suffix 3GPP: QCI5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	SAEB.EstabAddSuccNbr
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12608 - Normal E-RAB release

This counter provides the number of E-RABs normally released. Several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12608
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when any of the following three situations occur: 1. S1AP UE Context Release command is received when the cause is Normal release or Detach, and when a UE Context Release request has not been sent previously 2. E-RAB Release command is received when the cause is Normal release. 3. S1AP UE Context Release command is received after sending UE Context Release request when the cause is User Inactivity or Inter-RAT redirection.
Subcounters	E-RAB QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 requested. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 requested. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested. *Suffix 3GPP:* QCI6 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#6: Description:* QCI 7 requested. *Suffix 3GPP:* QCI7 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#7: Description:* QCI 8 requested. *Suffix 3GPP:* QCI8 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#8: Description:* QCI 9 requested. *Suffix 3GPP:* QCI9 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#9: Description:* Customer QCIs requested. *Suffix 3GPP:* CustomerQCIs *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	E-RAB Release
Report group	Mandatory
3GPP name	VS.NormalERABRelease
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

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12609 - Abnormal E-RAB release per QCI

This counter provides the number of E-RABs abnormally released. Several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12609
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when any of the following situations occur: 1. UE Context Release command is received with any abnormal cause, and when the UE Context Release request has not been sent previously. 2. E-RAB is locally released due to S1-Reset MME initiated. 3. E-RAB is locally released due to S1-Reset eUTRAN initiated. 4. UE Context Release command is received after sending UE Context Release request when the cause in the UE Context Release request is Release due to E-UTRAN generated reason or Failure in the Radio Interface Procedure. 5. The cell-barring hysteresis timer is armed or the eNodeB Cells Barred alarm is raised for the eNodeB or (MIM's) LteCell. 6. E-RAB Release command is received with an abnormal cause. 7. E-RAB is locally released due to reactive load control. 8. E-RAB is locally released due to loss of S1 link to the serving MME.
Subcounters	E-RAB QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#3: Description: QCI 4 requested.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: QCI 5 requested.
	Suffix 3GPP: QCI5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Release
Report group	Mandatory
3GPP name	VS.AbnormalERABReleasePerQCI
Object Class	CellPLMN
Range	0 to 2^{32}-1

Counter Information	Counter Value/Description
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12610 - Incoming E-RAB to be setup on intra-LTE handover

This counter provides the number of E-RAB establishment requested during the incoming intra-LTE handover procedures: X2AP Handover, S1AP Handover and intra-eNodeB Handover.

Counter Information	Counter Value/Description
Counter Code	12610
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered due to any of the following reasons: - X2-AP HANDOVER REQUEST is received - S1-AP HANDOVER REQUEST is received - RRC Connection Reconfiguration is sent to the UE, after performing an intra-eNodeB handover procedure.
Subcounters	Requested QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 requested. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 requested. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

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Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	VS.IncomingERABToBeSetupOnIntraLteHO
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12611 - Incoming E-RAB setup on intra-LTE handover

This counter provides the number of E-RAB establishment performed during the incoming intra-LTE handover procedures: X2AP Handover, S1AP Handover and intra-eNodeB Handover.

Counter Information	Counter Value/Description
Counter Code	12611
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered due to any of the following reasons: - After a successful X2_based handover preparation procedure, RRC Reconfiguration Complete message is received and X2-AP S1 STATUS TRANSFER is consistent with the UE context if least one TRB is subject to PDCP SN status preservation and S1-AP PATH SWITCH REQUEST ACKNOWLEDGE. - After a successful S1_based handover preparation procedure, RRC Reconfiguration Complete message is received and S1-AP MME STATUS TRANSFER is consistent with the UE context if least one TRB is subject to PDCP SN status preservation. - After a successful intra-eNodeB handover preparation procedure, RRC Reconfiguration Complete message is received. Note: RRC re-establishment is not a trigger for this counter, that is, re-establishment either in prepared cell or not prepared cell.
Subcounters	Requested QCI.
	#0: Description: QCI 1 requested.
	Suffix 3GPP: QCI1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: QCI 2 requested.
	Suffix 3GPP: QCI2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: QCI 3 requested.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#3: Description: QCI 4 requested.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: QCI 5 requested.
	Suffix 3GPP: QCI5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	VS.IncomingERABSetupOnIntraLteHO
Object Class	CellPLMN
Range	0 to 2^{32}-1

Counter Information	Counter Value/Description
Unit	EVENT

12612 - E-RAB modify request

This counter provides the number of E-RAB modify requests received from the MME. Remark: In LA3.0, 'partial failure' is supported. That is, some E-RAB may be modified and some other may be not modified. As this procedure can modify several E-RABs, it is possible that several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12612
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an E-RAB MODIFY REQUEST message is received. If QCI is modified, screening is pegged based on old QCI.
Subcounters	Requested QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 requested. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 requested. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Modify
Report group	Mandatory
3GPP name	SAEB.ModQoSAttNbr
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12613 - E-RAB modify success

This counter provides the number of E-RAB modify requests that succeeded. Remark: In LA3.0, 'partial failure' is supported. That is, some E-RAB may be modified and some other may be not modified. As this procedure can modify several E-RABs, it is possible that several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12613
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an E-RAB MODIFY RESPONSE message is sent with E-RAB Modify List indicating that at least one requested E-RABs has been successfully modified. If QCI is modified, screening is pegged based on old QCI.
Subcounters	Requested QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 requested. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 requested. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Modify
Report group	Mandatory
3GPP name	SAEB.ModQoSSuccNbr
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

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12614 - E-RAB modify failed

This counter provides the number of E-RAB modify requests that failed Remark: In LA3.0, 'partial failure' is supported. That is, some E-RAB may be modified and some other may be not modified. As this procedure can modify several E-RABs, it is possible that several screenings may be pegged simultaneously, or one screening can be pegged several times.

Counter Information	Counter Value/Description
Counter Code	12614
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an E-RAB MODIFY RESPONSE message is sent with E-RAB Failed to Modify List indicating that at least one requested E-RABs modify has failed.
Subcounters	Failure Cause. *#0: Description:* E-RAB modifiy cannot be performed due to OAM intervention. *Suffix 3GPP:* OAMIntervention *Triggering Event:* Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Miscellaneous Cause / OAM Intervention'. *Report group:* ServiceFailure *#1: Description:* Invalid E-RAB Modify Request due to Invalid IE Combination. *Suffix 3GPP:* InvalidIECombination *Triggering Event:* Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Radio Network Layer Cause / Invalid QoS Combination'. *Report group:* ServiceFailure *#2: Description:* CAC failure for E-RAB to modify requested (lack of resource). *Suffix 3GPP:* CACFailure *Triggering Event:* Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Radio Network Layer Cause / Radio Resources not Available'. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#3: Description: Internal failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Miscellaneous Cause / Unspecified'.
	Report group: ServiceFailure
	#4: Description: Timeout (no answer from the UE).
	Suffix 3GPP: Timeout
	Triggering Event: Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Radio Network Layer Cause / Failure in the Radio Interface Procedure' due to no answer from the UE.
	Report group: ServiceFailure
	#5: Description: RRC Connection Reestablishment.
	Suffix 3GPP: RRCConnectionReestablishment
	Triggering Event: Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Radio Network Layer Cause / Failure in the Radio Interface Procedure' due to: 1. receipt of RRC Connection Reestablishment Request for the non-HO reconfiguration message. 2. receipt of RRC Connection Reestablishment Request valid with old key for the intra-cell HO reconfiguration message.
	Report group: ServiceFailure
	#6: Description: Interaction with another procedure.
	Suffix 3GPP: InteractionWithOtherProcedure
	Triggering Event: Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Radio Network Layer Cause / Interaction with other procedure'.
	Report group: ServiceFailure
	#7: Description: Failure due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: Sending of S1AP E-RAB MODIFY RESPONSE message to the MME with E-RAB Failed to Modify List and Cause = 'Radio Network Layer Cause / Radio Resources not Available' due to PRB license check failure.
	Report group: ServiceFailure

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Counter Information	Counter Value/Description
Subfamily	E-RAB Modify
Report group	Mandatory
3GPP name	SAEB.ModQoSFailNbr
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12630 - E-RAB released due to reactive load control

This counter provides the number of E-RABs released due to reactive load control.

Counter Information	Counter Value/Description
Counter Code	12630
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when E-RAB release indication is sent due to reactive load control.
Subcounters	Not defined
Subfamily	E-RAB Release
Report group	Mandatory
3GPP name	VS.ERABReleasedDueToReactiveLoadControl
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12631 - E-RAB setup attempt over SPS

This counter provides the number of E-RAB establishment requests, that passed bearer matching during which SPS was selected. This applies to all procedures including initial E-RAB, additional E-RAB, incoming E-RAB upon mobility, (that is, handover or reestablishment). 'Partial failure' is supported. That is, some E-RAB may be established and some other may be not established.

Counter Information	Counter Value/Description
Counter Code	12631
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on each procedure with E-RAB establishment over SPS.
Subcounters	Not defined
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	VS.ERABSetupAttemptOverSPS
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	When this counter is pegged, another counter related to E-RAB establishment attempt (initial, additional or incoming on intra LTE handover), is simultaneously pegged. This counter may be also pegged for UE Rel8.

12632 - E-RAB setup success over SPS

This counter provides the number E-RAB establishment that succeeded over SPS. 'Partial failure' is supported. That is, some E-RAB may be established and some other may be not established.

Counter Information	Counter Value/Description
Counter Code	12632
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered for each procedure for E-RAB establishment over SPS, that is, initial E-RAB, additional E-RAB, incoming E-RAB upon handover or reestablishment. The counter is pegged as many times as a requested E-RAB has been established.
Subcounters	Not defined
Subfamily	E-RAB Setup
Report group	Mandatory
3GPP name	VS.ERABSetupSuccessOverSPS
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	When this counter is pegged, another counter related to E-RAB establishment success (initial, additional or incoming on intra LTE handover), is simultaneously pegged.

12633 - E-RAB setup failure over SPS

This counter provides the number of E-RAB Setup procedures over Semi Permanent Scheduling that have been failed.

Counter Information	Counter Value/Description
Counter Code	12633
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered for each procedure for E-RAB establishment over SPS , that is, initial E-RAB, additional E-RAB, incoming E-RAB upon handover or reestablishment. The counter is pegged as many times as an E-RAB is added to the E-RAB Failed to Setup list.
Subcounters	Not defined
Subfamily	E-RAB Setup Procedure
Report group	Mandatory
3GPP name	VS.ERABSetupFailureOverSPS
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	When this counter is pegged, the counter related to E-RAB setup failed is simultaneously pegged.

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12634 - E-RAB released due to radio link failure per QCI

This counter provides the number of E-RABs released due to radio link failure detected .
Several screenings may be pegged simultaneously, or one screening can be pegged
several times.

Counter Information	Counter Value/Description
Counter Code	12634
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when UE context release command is received in response to UE context release request sent to the MME due to radio link failure detected (and no re-establishment request received from the UE or re-establishment failed) or reception of X2AP RLF Indication , for each E-RAB that was established with the UE.
Subcounters	E-RAB QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 requested. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* QCI 5 requested. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

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Counter Information	Counter Value/Description
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Release
Report group	Mandatory
3GPP name	VS.ERABReleasedDueToRadioLinkFailurePerQCI
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged each time counter 12505-1 VS.UEContextReleaseRequest.RadioLinkFailure is pegged, for each of the E-RABs that were established with the UE, depending on their respective QCI values.

12635 - Number of abnormally released active SAE bearers

This counter provides the number of E-RABs abnormally released that were active at the time of release. E-RAB activity is determined in the RLC layer in the following way: - a timer is started as soon as all Downlink/Uplink RLC queues become empty, including both new transmission and retransmission queue. The timer is reset whenever there is packet arrival in any of the afore-mentioned queues. - If the timer value at the time of eRAB release is lower than a configured value, the bearer is considered active, if not it is considered not active. The measurement is split into subcounters per QCI.

Counter Information	Counter Value/Description
Counter Code	12635
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an established E-RAB is abnormally released and this E-RAB is considered active. Triggers for abnormal release are the ones of VS.AbnormalERABReleaseP-erQCI plus the ones of VS.ERABReleasedDueToRadioLink-FailurePerQCI.
Subcounters	E-RAB QCI. *#0: Description:* QCI 1 requested. *Suffix 3GPP:* QCI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* QCI 2 requested. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* QCI 3 requested. *Suffix 3GPP:* QCI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI 4 requested. *Suffix 3GPP:* QCI4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: QCI 5 requested.
	Suffix 3GPP: QCI5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: QCI 6 requested.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: QCI 7 requested.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event. Applicability updated in LA5.0.
	Report group: Mandatory
	#7: Description: QCI 8 requested.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: QCI 9 requested.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Customer QCIs requested.
	Suffix 3GPP: CustomerQCIs
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB Release
Report group	Mandatory
3GPP name	VS.SAEBAbnormalRelActNbr
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

9 eNodeB synchronization

Overview

Purpose

The following counters are generated to get information on eNodeB synchronization:

Contents

13401 - SYNC messages received from primary grandmaster

This counter provides the number of Sync messages that have been received from primary grandmaster.

Counter Information	Counter Value/Description
Counter Code	13401
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time a Sync message is received.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPSyncRxPrimaryGM
Object Class	ENBEquipment
Range	0 to $2^{16}-1$
Unit	EVENT

13402 - Announce messages received from primary grandmaster

This counter provides the number of Announce messages that have been received from primary grandmaster.

Counter Information	Counter Value/Description
Counter Code	13402
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time a Announce message is received.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPAnnounceRxPrimaryGM
Object Class	ENBEquipment
Range	0 to 2^{16}-1
Unit	EVENT

13403 - SYNC messages rejected from primary grandmaster

This counter provides the number of Sync messages from primary grandmaster rejected by the algorithm.

Counter Information	Counter Value/Description
Counter Code	13403
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time a Sync message is rejected by the algorithm.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPRejectedSyncRxPrimaryGM
Object Class	ENBEquipment
Range	0 to 2^{16}-1
Unit	EVENT

13404 - Errored SYNC messages received from primary grandmaster

This counter provides the number of Errored Sync messages that have been received from primary grandmaster.

Counter Information	Counter Value/Description
Counter Code	13404
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time an Errored Sync message is received.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPErroredSyncRxPrimaryGM
Object Class	ENBEquipment
Range	0 to 2^{16}-1
Unit	EVENT

13405 - SYNC messages received from secondary grandmaster

This counter provides the number of Sync messages that have been received from secondary grandmaster.

Counter Information	Counter Value/Description
Counter Code	13405
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time a Sync message is received.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPSyncRxSecondaryGM
Object Class	ENBEquipment
Range	0 to 2^{16}-1
Unit	EVENT

13406 - Announce messages received from secondary grandmaster

This counter provides the number of Announce messages that have been received from secondary grandmaster.

Counter Information	Counter Value/Description
Counter Code	13406
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time a Announce message is received.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPAnnounceRxSecondaryGM
Object Class	ENBEquipment
Range	0 to 2^{16}-1
Unit	EVENT

13407 - SYNC messages rejected from secondary grandmaster

This counter provides the number of Sync messages from secondary grandmaster rejected by the algorithm.

Counter Information	Counter Value/Description
Counter Code	13407
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time a Sync message is rejected by the algorithm.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPRejectedSyncRxSecondaryGM
Object Class	ENBEquipment
Range	0 to 2^{16}-1
Unit	EVENT

13408 - Errored SYNC messages received from secondary grandmaster

This counter provides the number of Errored Sync messages that have been received from secondary grandmaster.

Counter Information	Counter Value/Description
Counter Code	13408
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time an Errored Sync message is received.
Subcounters	Not defined
Subfamily	1588V2
Report group	Spare2
3GPP name	VS.PTPErroredSyncRxSecondaryGM
Object Class	ENBEquipment
Range	0 to 2^{16}-1
Unit	EVENT

13409 - Ptp frame packet delay variation

The counter provides the number of SYNC packets within a Packet delay variation window. A set of screenings provide the number of SYNC frames received within a set of latency windows. Each latency window defines a screening. The screenings are pegged based the (T2-T1) value, where T1 is the timestamp in the SYNC/Follow-Up 1588 message and T2 is the arrival time as timestamped by the eNodeB. The delay window width for each screening is defined by the ptpPDVCounterWidthStep MIM parameter. Each 'window' defines a 'bar' in a 'timedelay versus message count' bar chart capturing the number of SYNC packets received from the active grandmaster.

Counter Information	Counter Value/Description
Counter Code	13409
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time a PTP SYNC /Follow-UP frame is received.
Subcounters	Value of T2-T1 Packet delay variation window. *#0: Description:* (T2-T1) GE 0 and LT ptpPDVCounterWidthStep *Suffix 3GPP:* T2T1GE0LT1 *Triggering Event:* Please refer to common triggering event. *Report group:* PDV *#1: Description:* (T2-T1) Ge ptpPDVCounterWidthStep and Lt 2*ptpPDVCounterWidthStep. *Suffix 3GPP:* T2T1GE1LT2 *Triggering Event:* Please refer to common triggering event. *Report group:* PDV *#2: Description:* (T2-T1) Ge 2*ptpPDVCounterWidthStep and Lt 3*ptpPDVCounterWidthStep. *Suffix 3GPP:* T2T1GE2LT3 *Triggering Event:* Please refer to common triggering event. *Report group:* PDV *#3: Description:* (T2-T1) Ge 3*ptpPDVCounterWidthStep and Lt 4*ptpPDVCounterWidthStep. *Suffix 3GPP:* T2T1GE3LT4 *Triggering Event:* Please refer to common triggering event. *Report group:* PDV

Counter Information	Counter Value/Description
	#4: Description: (T2-T1) Ge 4*ptpPDVCounterWidthStep and Lt 5*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE4LT5
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#5: Description: (T2-T1) Ge 5*ptpPDVCounterWidthStep and Lt 6*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE5LT6
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#6: Description: (T2-T1) Ge 6*ptpPDVCounterWidthStep and Lt 7*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE6LT7
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#7: Description: (T2-T1) Ge 7*ptpPDVCounterWidthStep and Lt 8*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE7LT8
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#8: Description: (T2-T1) Ge 8*ptpPDVCounterWidthStep and Lt 9*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE8LT9
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#9: Description: (T2-T1) Ge 9*ptpPDVCounterWidthStep and Lt 10*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE9LT10
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#10: Description: (T2-T1) Ge 10*ptpPDVCounterWidthStep and Lt 11*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE10LT11
	Triggering Event: Please refer to common triggering event.
	Report group: PDV

Counter Information	Counter Value/Description
	#11: Description: (T2-T1) Ge 11*ptpPDVCounterWidthStep and Lt 12*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE11LT12
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#12: Description: (T2-T1) Ge 12*ptpPDVCounterWidthStep and Lt 13*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE12LT13
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#13: Description: (T2-T1) Ge 13*ptpPDVCounterWidthStep and Lt 14*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE13LT14
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#14: Description: (T2-T1) Ge 14*ptpPDVCounterWidthStep and Lt 15*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE14LT15
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#15: Description: (T2-T1) Ge 15*ptpPDVCounterWidthStep and Lt 16*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE15LT16
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#16: Description: (T2-T1) Ge 16*ptpPDVCounterWidthStep and Lt 17*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE16LT17
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#17: Description: (T2-T1) Ge 17*ptpPDVCounterWidthStep and Lt 18*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE17LT18
	Triggering Event: Please refer to common triggering event.
	Report group: PDV

Counter Information	Counter Value/Description
	#18: Description: (T2-T1) Ge 18*ptpPDVCounterWidthStep and Lt 19*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE18LT19
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#19: Description: (T2-T1) Ge 19*ptpPDVCounterWidthStep and Lt 20*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE19LT20
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
	#20: Description: (T2-T1) Ge 20*ptpPDVCounterWidthStep.
	Suffix 3GPP: T2T1GE20
	Triggering Event: Please refer to common triggering event.
	Report group: PDV
Subfamily	PDV Counter
Report group	Mandatory
3GPP name	VS.PtpFramePDV
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet
Notes	The width in time of each 'window' is defined in the MIM by the parameter PTPClientClockSync/ptpPDVCounterWidthStep (unit is nanosecond). The PDV measurements are normalised to allow approximately screening 5 to be the bin with the maximum count of packets and then the counters are populated each reporting period."

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10   Interface management

Overview

Purpose

The following counters are generated to get information on Interface management:

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14101 - S1 error indication by eNodeB

This counter provides the number of times that a S1 Error indication message is sent by the eNodeB towards the MME.

Counter Information	Counter Value/Description
Counter Code	14101
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on sending of S1 Error indication message towards the MME.
Subcounters	Cause. *#0: Description:* Unknown or already allocated MME UE S1AP ID. *Suffix 3GPP:* UnknownOrAlreadyAllocatedMMEUES1apId *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Unknown or already allocated eNodeB UE S1AP ID. *Suffix 3GPP:* UnknownOrAlreadyAllocatedeNodeBUES1apId *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Unknown or already allocated pair of UE S1AP ID. *Suffix 3GPP:* UnknownOrAlreadyAllocatedPairOfUES1apId *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Any protocol error. *Suffix 3GPP:* ProtocolError *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* All other causes. *Suffix 3GPP:* Other *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Error indication
Report group	Mandatory

Counter Information	Counter Value/Description
3GPP name	VS.S1ErrorIndicationByENodeB
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT

14102 - S1 error indication by MME

This counter provides the number of times that a S1 Error indication message is received by the eNodeB from the MME.

Counter Information	Counter Value/Description
Counter Code	14102
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of S1 Error indication message from the MME.
Subcounters	Cause. *#0: Description:* Unknown or already allocated MME UE S1AP ID. *Suffix 3GPP:* UnknownOrAlreadyAllocatedMMEUES1apId *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Unknown or already allocated eNodeB UE S1AP ID. *Suffix 3GPP:* UnknownOrAlreadyAllocatedeNodeBUES1apId *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Unknown or already allocated pair of UE S1AP ID. *Suffix 3GPP:* UnknownOrAlreadyAllocatedPairOfUES1apId *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Any protocol error. *Suffix 3GPP:* ProtocolError *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* All other causes. *Suffix 3GPP:* Other *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Error indication
Report group	Mandatory

Counter Information	Counter Value/Description
3GPP name	VS.S1ErrorIndicationByMME
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT

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11 Ip transport

Overview

Purpose

The following counters are generated to get information on Ip transport:

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13301 - If in octets

This counter provides the total number of KiBytes (1024 Bytes) received on the eNodeB external GEthernet interface, including framing characters.

Counter Information	Counter Value/Description
Counter Code	13301
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets on the eNodeB external GEthernet interface are received.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfInOctets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	KiBytes

13302 - If in ucast pkts

This counter provides the number of subnetwork-unicast packets received on the eNodeB external GEthernet interface, delivered to a higher-layer protocol.

Counter Information	Counter Value/Description
Counter Code	13302
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when subnetwork-unicast packets received on the eNodeB external GEthernet interface are delivered to higher level protocols.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfInUcastPkts
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	Packet

13303 - If in nucast pkts

This counter provides the number of non-unicast (broadcast and multicast) packets received on the eNodeB external GEthernet interface, delivered to a higher-layer protocol.

Counter Information	Counter Value/Description
Counter Code	13303
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when non-unicast (broadcast and multicast) packets received on the eNodeB external GEthernet interface are delivered to higher level protocols.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfInNucastPkts
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

13304 - If in discards

This counter provides the number of inbound packets received on the eNodeB external GEthernet interface. These packets were chosen to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.

Counter Information	Counter Value/Description
Counter Code	13304
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when inbound packets received on the eNodeB external GEthernet interface without any error are discarded.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfInDiscards
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

13305 - If in errors

This counter provides the number of inbound packets received on the eNodeB external GEthernet interface. These packets containerrors preventing them from being delivered to a higher-layer protocol.

Counter Information	Counter Value/Description
Counter Code	13305
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the inbound packets that contains errors are received on the eNodeB external GEthernet interface and are discarded.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfInErrors
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

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13306 - If in unknown protos

This counter provides the number of inbound packets received on the eNodeB external GEthernet interface, which were discarded because of an unknown or unsupported protocol.

Counter Information	Counter Value/Description
Counter Code	13306
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when inbound packets received on the eNodeB external GEthernet interface are discarded because of an unknown or unsupported protocol.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfInUnknownProtos
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

13307 - If out octets

This counter provides the total number of KiBytes (1024 Bytes) transmitted out of the eNodeB external GEthernet interface, including framing characters.

Counter Information	Counter Value/Description
Counter Code	13307
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are transmitted out of the eNodeB external GEthernet interface.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfOutOctets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	KiBytes

13308 - If out ucast pkts

This counter provides the total number of packets that are requested by the higher-level protocols to be transmitted out of the eNodeB external GEthernet interface to a unicast address. The packets also include those that were discarded or not sent.

Counter Information	Counter Value/Description
Counter Code	13308
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the higher level protocol requests the packets to be transmitted out of the eNodeB external GEthernet interface to a unicast address.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfOutUcastPkts
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

13309 - If out nucast pkts

This counter provides the total number of packets that are requested by the higher-level protocols to be transmitted out of the eNodeB external GEthernet interface to a non-unicast (broadcast or multicast) address. The packets also include those that were discarded or not sent.

Counter Information	Counter Value/Description
Counter Code	13309
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the higher level protocol requests the packets to be transmitted out of the eNodeB external GEthernet interface to a non-unicast address.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfOutNucastPkts
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

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13310 - If out discards

This counter provides the number of outbound packets chosen to be discarded even though no errors had been detected to prevent their delivery to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.

Counter Information	Counter Value/Description
Counter Code	13310
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when outbound packets without any error are discarded.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfOutDiscards
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

13311 - If out errors

This counter provides the number of outbound packets that could not be transmitted because of errors.

Counter Information	Counter Value/Description
Counter Code	13311
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when outbound packets with errors are discarded.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfOutErrors
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

13312 - If in link utilisation

This counter provides information to monitor the eNodeB GEthernet link utilisation for the incoming traffic. This is the division of the bandwidth used by 1 Giga. The result is shown as a percentage with a granularity of 1%.

Counter Information	Counter Value/Description
Counter Code	13312
Counter Type	LOAD
Triggering (Event)	This counter is triggered at each sampling period. The sampling period is 1 second in LA1.1.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfInLinkUtilisation
Object Class	ENBEquipment
Range	0 to 100
Unit	%

13313 - If out link utilisation

This counter provides information to monitor the eNodeB GEthernet link utilisation for the outgoing traffic. This is the division of the bandwidth used by 1 Giga. The result is shown as a percentage with a granularity of 1%.

Counter Information	Counter Value/Description
Counter Code	13313
Counter Type	LOAD
Triggering (Event)	This counter is triggered at each sampling period. The sampling period is 1 second in LA1.1.
Subcounters	Not defined
Subfamily	GEthernet interface
Report group	Mandatory
3GPP name	VS.IfOutLinkUtilisation
Object Class	ENBEquipment
Range	0 to 100
Unit	%

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13314 - OAM in octets

This counter provides the total number of KiBytes (1024 Bytes) received on the VLAN containing the OAM traffic of the eNodeB (Length of the Ethernet frame, including the Ethernet header).

Counter Information	Counter Value/Description
Counter Code	13314
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are received on the VLAN containing the OAM traffic.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.OAMInOctets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	KiBytes
Notes	If some Telecom traffic is mapped to the OAM VLAN and some is not, then the Telecom traffic mapped to the OAM VLAN would be included in this OAM VLAN counter only. It is possible that 1588 synchronisation traffic may be mapped to the OAM VLAN. In this case this OAM VLAN counter counts the 1588 synchronisation traffic.

13315 - OAM in packets

This counter provides the total number of packets received on the VLAN containing the OAM traffic of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13315
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are received on the VLAN containing the OAM traffic.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.OAMInPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet
Notes	If some Telecom traffic is mapped to the OAM VLAN and some is not, then the Telecom traffic mapped to the OAM VLAN would be included in this OAM VLAN counter only. It is possible that 1588 synchronisation traffic may be mapped to the OAM VLAN. In this case this OAM VLAN counter counts the 1588 synchronisation traffic.

13316 - OAM out octets

This counter provides the total number of KiBytes (1024 Bytes) sent on the VLAN containing the OAM traffic of the eNodeB (Length of the Ethernet frame, including the Ethernet header).

Counter Information	Counter Value/Description
Counter Code	13316
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are sent on the VLAN containing the OAM traffic.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.OAMOutOctets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	KiBytes
Notes	If some Telecom traffic is mapped to the OAM VLAN and some is not, then the Telecom traffic mapped to the OAM VLAN would be included in this OAM VLAN counter only. It is possible that 1588 synchronisation traffic may be mapped to the OAM VLAN. In this case this OAM VLAN counter counts the 1588 synchronisation traffic.

13317 - OAM out packets

This counter provides the total number of packets sent on the VLAN containing the OAM traffic of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13317
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are sent on the VLAN containing the OAM traffic.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.OAMOutPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet
Notes	If some Telecom traffic is mapped to the OAM VLAN and some is not, then the Telecom traffic mapped to the OAM VLAN would be included in this OAM VLAN counter only. It is possible that 1588 synchronisation traffic may be mapped to the OAM VLAN. In this case this OAM VLAN counter counts the 1588 synchronisation traffic.

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13318 - Telecom in octets

This counter provides the total number of KiBytes (1024 Bytes) received on all Telecom VLANs of the eNodeB (Length of the Ethernet frame, including the Ethernet header).

Counter Information	Counter Value/Description
Counter Code	13318
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are received on a Telecom VLAN.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.TelecomInOctets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	KiBytes
Notes	If all Telecom traffic and OAM traffic are mapped to the same VLAN, then this counter remains equal to zero. If there are multiple Telecom VLANs configured, which are distinct from the OAM VLAN, all these Telecom VLANs are considered in this Telecom VLAN counter.

13319 - Telecom in packets

This counter provides the total number of packets received on all Telecom VLANs of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13319
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are received on a Telecom VLAN.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.TelecomInPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet
Notes	If all Telecom traffic and OAM traffic are mapped to the same VLAN, then this counter remains equal to zero. If there are multiple Telecom VLANs configured, which are distinct from the OAM VLAN, all these Telecom VLANs are considered in this Telecom VLAN counter.

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13320 - Telecom out octets

This counter provides the total number of KiBytes (1024 Bytes) sent on a Telecom VLANs of the eNodeB (Length of the Ethernet frame, including the Ethernet header).

Counter Information	Counter Value/Description
Counter Code	13320
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are sent on a Telecom VLAN.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.TelecomOutOctets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	KiBytes
Notes	If all Telecom traffic and OAM traffic are mapped to the same VLAN, then this counter remains equal to zero. If there are multiple Telecom VLANs configured, which are distinct from the OAM VLAN, all these Telecom VLANs are considered in this Telecom VLAN counter.

13321 - Telecom out packets

This counter provides the total number of packets sent on all Telecom VLANs of the eNodeB.

Counter Information	Counter Value/Description
Counter Code	13321
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the packets are sent on a Telecom VLAN.
Subcounters	Not defined
Subfamily	VLAN
Report group	Mandatory
3GPP name	VS.TelecomOutPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet
Notes	If all Telecom traffic and OAM traffic are mapped to the same VLAN, then this counter remains equal to zero. If there are multiple Telecom VLANs configured, which are distinct from the OAM VLAN, all these Telecom VLANs are considered in this Telecom VLAN counter.

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13326 - Port shaper queue rejected packets

The counter provides the total number of packets rejected at the FiFO.

Counter Information	Counter Value/Description
Counter Code	13326
Counter Type	CUMULATE
Triggering (Event)	The counter is triggered when the packets are received at the FiFO.
Subcounters	Not defined
Subfamily	UL Traffic Shaping
Report group	TrafficShaping
3GPP name	VS.PortShaperQueueRejectedPackets
Object Class	TransportCosConfPerPort
Range	0 to 2^{32}-1
Unit	Packet

13327 - Port shaper queue accepted packets

The counter provides the total number of packets accepted into the FiFO.

Counter Information	Counter Value/Description
Counter Code	13327
Counter Type	CUMULATE
Triggering (Event)	The counter is triggered when the packets are received into the FiFO.
Subcounters	Not defined
Subfamily	UL Traffic Shaping
Report group	TrafficShaping
3GPP name	VS.PortShaperQueueAcceptedPackets
Object Class	TransportCosConfPerPort
Range	0 to 2^{32}-1
Unit	Packet

13328 - Port shaper queue packet loss rate

This counter provides the average, minimum and maximum packet loss rate for the FiFO. This measurement is obtained by sampling at pre-defined intervals the total number of packets accepted and rejected at the FiFO. The rate is calculated by dividing the number of rejected packets by the sum of the number of rejected packets plus the number of accepted packets and multiplying by 1'000 000.

Counter Information	Counter Value/Description
Counter Code	13328
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. This sampling period is defined by the MIM parameter packetsLossRateMeasurementPeriod in TransportCacAndShapingConf.
Subcounters	Not defined
Subfamily	UL Traffic Shaping
Report group	TrafficShaping
3GPP name	VS.PortShaperQueuePacketLossRate
Object Class	TransportCosConfPerPort
Range	0 to 10^6
Unit	ppm

13329 - VLAN shaper queue rejected packets

The counter provides the total number of packets rejected at the FiFO.

Counter Information	Counter Value/Description
Counter Code	13329
Counter Type	CUMULATE
Triggering (Event)	The counter is triggered when the packets are received at the FiFO.
Subcounters	Not defined
Subfamily	UL Traffic Shaping
Report group	TrafficShaping
3GPP name	VS.VlanShaperQueueRejectedPackets
Object Class	TransportCosConf
Range	0 to $2^{32}-1$
Unit	Packet

13330 - VLAN shaper queue accepted packets

The counter provides the total number of packets accepted into the FiFO.

Counter Information	Counter Value/Description
Counter Code	13330
Counter Type	CUMULATE
Triggering (Event)	The counter is triggered when the packets are received into the FiFO.
Subcounters	Not defined
Subfamily	UL Traffic Shaping
Report group	TrafficShaping
3GPP name	VS.VlanShaperQueueAcceptedPackets
Object Class	TransportCosConf
Range	0 to 2^{32}-1
Unit	Packet

13331 - VLAN shaper queue packet loss rate

This counter provides the average, minimum and maximum packet loss rate for the FiFO. This measurement is obtained by sampling at pre-defined intervals the total number of packets accepted and rejected at the FiFO. The rate is calculated by dividing the number of rejected packets by the sum of the number of rejected packets plus the number of accepted packets and multiplying by 1'000 000.

Counter Information	Counter Value/Description
Counter Code	13331
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. This sampling period is defined by the MIM parameter packetsLossRateMeasurementPeriod in TransportCacAndShapingConf.
Subcounters	Not defined
Subfamily	UL Traffic Shaping
Report group	TrafficShaping
3GPP name	VS.VlanShaperQueuePacketLossRate
Object Class	TransportCosConf
Range	0 to 10^6
Unit	ppm

13332 - VLAN uplink throughput

This counter provides the uplink throughput on the VLAN interface (including Ethernet header and CRC).

Counter Information	Counter Value/Description
Counter Code	13332
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. The sampling period is 10s.
Subcounters	Not defined
Subfamily	Vlan Throughput
Report group	Mandatory
3GPP name	VS.VlanULThroughput
Object Class	Vlan
Range	0 to $2^{32}-1$
Unit	kbits/s

13333 - VLAN downlink throughput

This counter provides the downlink throughput on the VLAN interface (including Ethernet headers and CRC).

Counter Information	Counter Value/Description
Counter Code	13333
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. The sampling period is 10s.
Subcounters	Not defined
Subfamily	Vlan Throughput
Report group	Mandatory
3GPP name	VS.VlanDLThroughput
Object Class	Vlan
Range	0 to 2^{32}-1
Unit	kbits/s

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13334 - VLAN traffic type uplink packets

This counter provides the number of uplink Ethernet frames sent for the concerned traffic type of the VLAN.

Counter Information	Counter Value/Description
Counter Code	13334
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each uplink Ethernet frame sent in the VLAN for the concerned traffic type.
Subcounters	Not defined
Subfamily	Vlan Traffic Type Throughput
Report group	Spare2
3GPP name	VS.VlanTrafficTypeULPackets
Object Class	TrafficType
Range	0 to 2^{32}-1
Unit	Packet
Notes	There is a counter created for every traffic type listed in the MIM parameter TrafficType in the VLAN/TrafficDescriptor MO. The available TrafficTypes are S1-U, S1-MME, X2-U, X2-C, M1, M3, OAM-NC, 1588. OAM-NC is the 'catch-all' traffic type which exists in every VLAN, and includes Network Control traffic as OAM.

13335 - VLAN traffic type downlink packets

This counter provides the number of downlink Ethernet frames received for the concerned traffic type of the VLAN.

Counter Information	Counter Value/Description
Counter Code	13335
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each downlink Ethernet frame received in the VLAN for the concerned traffic type.
Subcounters	Not defined
Subfamily	Vlan Traffic Type Throughput
Report group	Spare2
3GPP name	VS.VlanTrafficTypeDLPackets
Object Class	TrafficType
Range	0 to 2^{32}-1
Unit	Packet
Notes	There is a counter created for every traffic type listed in the MIM parameter TrafficType in the VLAN/TrafficDescriptor MO. The available TrafficTypes are S1-U, S1-MME, X2-U, X2-C, M1, M3, OAM-NC, 1588. OAM-NC is the 'catch-all' traffic type which exists in every VLAN, and includes Network Control traffic as OAM.

13336 - VLAN traffic type uplink octets

This counter provides the number of Ethernet kbytes (1000 Bytes) sent for the concerned traffic type of the VLAN. The count includes IP and ethernet headers.

Counter Information	Counter Value/Description
Counter Code	13336
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each uplink Ethernet frame sent in the VLAN for the concerned traffic type.
Subcounters	Not defined
Subfamily	Vlan Traffic Type Throughput
Report group	Spare2
3GPP name	VS.VlanTrafficTypeULOctets
Object Class	TrafficType
Range	0 to 2^{32}-1
Unit	kBytes
Notes	There is a counter created for every traffic type listed in the MIM parameter TrafficType in the VLAN/TrafficDescriptor MO. The available TrafficTypes are S1-U, S1-MME, X2-U, X2-C, M1, M3, OAM-NC, 1588. OAM-NC is the 'catch-all' traffic type which exists in every VLAN, and includes Network Control traffic as OAM.

13337 - VLAN traffic type downlink octets

This counter provides the number of Ethernet kbytes (1000 Bytes) received for the concerned traffic type of the VLAN. The count includes IP and ethernet headers.

Counter Information	Counter Value/Description
Counter Code	13337
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each downlink Ethernet frame received in the VLAN for the concerned traffic type.
Subcounters	Not defined
Subfamily	Vlan Traffic Type Throughput
Report group	Spare2
3GPP name	VS.VlanTrafficTypeDLOctets
Object Class	TrafficType
Range	0 to 2^{32}-1
Unit	kBytes
Notes	There is a counter created for every traffic type listed in the MIM parameter TrafficType in the VLAN/TrafficDescriptor MO. The available TrafficTypes are S1-U, S1-MME, X2-U, X2-C, M1, M3, OAM-NC, 1588. OAM-NC is the 'catch-all' traffic type which exists in every VLAN, and includes Network Control traffic as OAM.

13338 - VLAN uplink packets

This counter provides the number of uplink Ethernet frames sent in the VLAN screened per payload size.

Counter Information	Counter Value/Description
Counter Code	13338
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each uplink Ethernet frame sent in the VLAN.
Subcounters	Packet size. *#0: Description:* This counter provides the number of uplink Ethernet frames sent in the VLAN with payload up to a programmable threshold GlobaltransportConf/ ipPacketSizeCounterThr1. *Suffix 3GPP:* Small *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2 *#1: Description:* This counter provides the number of uplink Ethernet frames sent in the VLAN with payload size from the programmable threshold GlobalTransportConf/ ipPacketSizeCounterThr1 + 1, to the programmable threshold GlobalTransportConf/ipPacketSizeCounterThr2. *Suffix 3GPP:* Medium *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2 *#2: Description:* This counter provides the number of uplink Ethernet frames sent in the VLAN with payload between the programmable threshold GlobaltransportConf/ ipPacketSizeCounterThr2 + 1 to 1500 bytes. *Suffix 3GPP:* Large *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2

Counter Information	Counter Value/Description
	#3: Description: This counter provides the number of uplink Ethernet frames sent in the VLAN with payload greater than 1500 bytes. *Suffix 3GPP:* Jumbo *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2
Subfamily	Vlan Throughput
Report group	Mandatory
3GPP name	VS.VlanULPackets
Object Class	Vlan
Range	0 to 2^{32}-1
Unit	Packet

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13339 - VLAN downlink packets

This counter provides the number of downlink Ethernet frames received in the VLAN screened per payload size.

Counter Information	Counter Value/Description
Counter Code	13339
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each downlink Ethernet frame received in the VLAN.
Subcounters	Packet size. *#0: Description:* This counter provides the number of downlink Ethernet frames received in the VLAN with payload down to a programmable threshold GlobaltransportConf/ ipPacketSizeCounterThr1. *Suffix 3GPP:* Small *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2 *#1: Description:* This counter provides the number of downlink Ethernet frames received in the VLAN with payload size from the programmable threshold GlobalTransportConf/ ipPacketSizeCounterThr1 + 1, to the programmable threshold GlobalTransportConf/ipPacketSizeCounterThr2. *Suffix 3GPP:* Medium *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2 *#2: Description:* This counter provides the number of downlink Ethernet frames received in the VLAN with payload between the programmable threshold GlobaltransportConf/ ipPacketSizeCounterThr2 + 1 to 1500 bytes. *Suffix 3GPP:* Large *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2

Counter Information	Counter Value/Description
	#3: Description: This counter provides the number of downlink Ethernet frames received in the VLAN with payload greater than 1500 bytes. *Suffix 3GPP:* Jumbo *Triggering Event:* Please refer to common triggering event. *Report group:* Spare2
Subfamily	Vlan Throughput
Report group	Mandatory
3GPP name	VS.VlanDLPackets
Object Class	Vlan
Range	0 to 2^{32}-1
Unit	Packet

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12 L1 Traffic and throughput

Overview

Purpose

The following counters are generated to get information on L1 Traffic and throughput:

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12001 - VoIP downlink FER

This counter provides the distribution of the downlink FER on VoIP E-RABs on a cell. The counter is sampled every 5 seconds and is updated based on FER values computed per VoIP E-RAB. In order to avoid pegging the counter with non-representative values, FER values is only taken into account if at least voIpDlFerMinPdu PDUs have been sent.

Counter Information	Counter Value/Description
Counter Code	12001
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: MAC entity performs the initial HARQ transmission of a MAC PDU for VoIP E-RAB (b). Actions: voIPDlTotalPdu{b} ++ 2.Trigger: MAC entity receives a NACK for the last HARQ transmission of a MAC PDU sent for VoIP E-RAB (b). Actions: voIPBadDlPdu{b} ++ 3.Trigger: VoIP E-RAB (b) is released (including dropped E-RABs). Actions: If (voIPDlTotalPdu{b} > voIpDlFerMinPdu) then voIPDlFer{b} = (voIPBadDlPdu{bi} / voIPDlTotalPdu{b}) the sub-counter that corresponds to the voIPDlFer{b} is incremented by 1. Else the counter is not pegged, voIPDlTotalPdu{b} = 0, voIPBadDlPdu{b} = 0 4.Trigger: At the end of the sampling period (5 seconds). Actions: Loop on every allocated VoIP E-RABs, If (voIPDlTotalPdu{b} > voIpDlFerMinPdu) then voIPDlFer{b} = (voIPBadDlPdu{b} / voIPDlTotalPdu{b}) the sub-counter that corresponds to the voIPDlFer{b} is incremented by 1 Else Counter is not pegged, voIPDlTotalPdu{b} = 0, voIPBadDlPdu{b} = 0.
Subcounters	FER range values.
	#0: Description: Number of downlink FER values lower or equal to Range1.
	Suffix 3GPP: LeRange1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Number of downlink FER values greater than Range1 and lower or equal to Range2.
	Suffix 3GPP: GTRange1LeRange2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#2: Description: Number of downlink FER values greater than Range2 and lower or equal to Range3.
	Suffix 3GPP: GTRange2LeRange3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Number of downlink FER values greater than Range3 and lower or equal to Range4.
	Suffix 3GPP: GTRange3LeRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Number of downlink FER values greater than Range4.
	Suffix 3GPP: GTRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	VoIP FER
Report group	Mandatory
3GPP name	VS.VoIPDLFER
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	voIpDlFerMinPdu and the 4 values used as screenings' criteria are hard coded : voIpDlFerMinPdu=0, Range1=5%, Range2=10%, Range3=20%, Range4=50%.

12003 - Cell downlink L1 throughput

This counter provides the distribution of the downlink throughput (including HARQ retransmissions) experienced on the L1 shared channels of the cell. The counter is sampled every 5 seconds and updated based on throughput values computed globally for every mobiles scheduled on the cell during this sampling period. In order to avoid pegging the counter with non-representative values, the throughput is only taken into account if at least L1DlThroughputMinKb KiBytes (1024 Bytes) have been sent during this period.

Counter Information	Counter Value/Description
Counter Code	12003
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: MAC entity sends a MAC PDU on the L1 channel (including HARQ retransmissions). Actions: L1DlPayload += TBS 2.Trigger: Every TTI. Actions: If at least one PDU has been received on L1 channel during this TTI then nbUlL1TTI++. 3.Trigger: At the end of the sampling period (5 seconds). Actions: If (L1DlPayload > L1DlThroughputMinKb) then L1DlThroughput = (L1DlPayload / (nbDlL1TTI * ttiDuration)) The sub-counter that corresponds to the L1DlThroughput is incremented by 1 Else the counter is not pegged, L1DlPayload = 0, nbDlL1TTI = 0.
Subcounters	Throughput range values. *#0: Description:* Number of L1 downlink throughput values lower or equal to Range1. *Suffix 3GPP:* LeRange1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of L1 downlink throughput values greater than Range1 and lower or equal to Range2. *Suffix 3GPP:* GTRange1LeRange2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of L1 downlink throughput values greater than Range2 and lower or equal to Range3. *Suffix 3GPP:* GTRange2LeRange3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#3: Description: Number of L1 downlink throughput values greater than Range3 and lower or equal to Range4. *Suffix 3GPP:* GTRange3LeRange4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* Number of L1 downlink throughput values greater than Range4. *Suffix 3GPP:* GTRange4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Cell Throughput
Report group	Mandatory
3GPP name	VS.CellDLL1Throughput
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	L1DlThroughputMinKb and the 4 values used as screenings' criteria are hard coded. L1DlThroughputMinKb = 0 kbps, Range1=128 kbps, Range2= 512 kbps, Range3= 1000 kbps, Range4= 5000 kbps.

12004 - Cell uplink L1 throughput

This counter provides the distribution of the uplink throughput (including retransmissions) experienced on the L1 traffic channel of the cell. The counter is sampled every 5 second and updated based on throughput values computed globally for every mobiles scheduled on the cell during the sampling period (throughput values are computed over the active periods only). Note that computed throughput values considers: Correctly and not correctly decoded blocks, RACH msg3 messages, Padding data sent by the UE In order to avoid pegging the counter with non-representative values, throughput values is only taken into account if at least L1UlThroughputMinKb KiBytes (1024 Bytes) have been received during the period.

Counter Information	Counter Value/Description
Counter Code	12004
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: MAC entity receives a MAC PDU on the L1 channel. Actions: L1UlPayload += TBS 2.Trigger: Every TTI. Actions: If at least one PDU has been received on L1 channel during this TTI then nbUlL1TTI++ 3.Trigger: At the end of the sampling period (5 seconds). Actions: If (L1UlPayload > L1UlThroughputMinKb) then L1UlThroughput = (L1UlPayload / (nbUlL1TTI * ttiDuration)) Peg counter according to L1UlThroughput, L1UlPayload = 0, nbUlL1TTI = 0.
Subcounters	Throughput range values. *#0: Description:* Number of L1 uplink throughput values lower or equal to Range1. *Suffix 3GPP:* LeRange1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of L1 uplink throughput values greater than Range1 and lower or equal to Range2. *Suffix 3GPP:* GTRange1LeRange2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#2: Description: Number of L1 uplink throughput values greater than Range2 and lower or equal to Range3.
	Suffix 3GPP: GTRange2LeRange3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Number of L1 uplink throughput values greater than Range3 and lower or equal to Range4.
	Suffix 3GPP: GTRange3LeRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Number of L1 uplink throughput values greater than Range4.
	Suffix 3GPP: GTRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Cell Throughput
Report group	Mandatory
3GPP name	VS.CellULL1Throughput
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	L1UlThroughputMinKb and the 4 values used as screenings' criteria are hard coded. L1UlThroughputMinKb = 0 kbps, Range1=128 kbps, Range2= 512 kbps, Range3= 1000 kbps, Range4= 5000 kbps.

12007 - Downlink residual MAC BLER with dynamic scheduling

This counter provides a distribution of residual Dynamic Scheduling MAC BLER values measured in downlink direction. In order to avoid pegging the counter with non-representative values, BLER values is only taken into account if at least dlBlerMinPdu PDUs have been sent.

Counter Information	Counter Value/Description
Counter Code	12007
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: MAC entity performs the initial HARQ transmission of a MAC PDU using Dynamic Scheduling for the E-RAB (b). Actions: TotalDlPdu{b} ++ 2.Trigger: MAC entity receives a NACK for the last HARQ transmission of a MAC PDU sent in Dynamic Scheduling for the E-RAB (b). Actions: BadDlPdu{b} ++ 3.Trigger: E-RAB (b) is released (including dropped E-RABs). Actions: If (TotalDlPdu {b} > dlBlerMinPdu) then DlBler{b} = (BadDlPdu {b} / TotalDlPdu {b}) tThe sub-counter that corresponds to the DlBler {b} is incremented by 1 Else the screening Null is pegged, TotalDlPdu {b} = 0 BadDlPdu {b} = 0 4.Trigger: At the end of the sampling period (5 seconds). Actions: Loop on every allocated E-RABs, If (TotalDlPdu {b} > dlBlerMinPdu) then DlBler {b} = (BadDlPdu {b} / TotalDlPdu {b}) the sub-counter that corresponds to the DlBler {b} is incremented by 1 Else screening Null is pegged, TotalDlPdu {b} = 0, BadDlPdu {b} = 0.
Subcounters	BLER threshold values.
	#0: Description: DL MAC BLER values lower than or equal to Threshold1.
	Suffix 3GPP: LEThreshold1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: DL MAC BLER values greater than Threshold1 and lower than or equal to Threshold2.
	Suffix 3GPP: GTThreshold1LEThreshold2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

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Counter Information	Counter Value/Description
	#2: Description: DL MAC BLER values greater than Threshold2 and lower than or equal to Threshold3.
	Suffix 3GPP: GTThreshold2LEThreshold3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: DL MAC BLER values greater than Threshold3 and lower than or equal to Threshold4.
	Suffix 3GPP: GTThreshold3LEThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: DL MAC BLER values greater than Threshold4.
	Suffix 3GPP: GTThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	MAC BLER
Report group	Mandatory
3GPP name	VS.DLResidualMacBLERWithDynamicScheduling
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	N/A
Notes	dlBlerMinPdu and the 4 values used as screenings' criteria are hard coded. dlBlerMinPdu = 0, Threshold1=1%, Threshold2= 2%, Threshold3= 5%, Threshold4= 10%. Information available in LA1.0 through UPOS traces. This counter includes packets with first HARQ transmission scheduled by Dynamic Scheduler of VoIP SPS bearer. This does not include packets with first HARQ transmission scheduled by Semi-Persistent Scheduler of VoIP SPS bearer.

12008 - Downlink initial MAC BLER with dynamic scheduling

This counter provides a distribution of initial Dynamic Scheduling MAC BLER values measured in downlink direction. In order to avoid pegging the counter with non-representative values, BLER values is only taken into account if at least dlBlerMinPdu PDUs have been sent.

Counter Information	Counter Value/Description
Counter Code	12008
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: MAC entity performs the initial HARQ transmission of a MAC PDU using Dynamic Scheduling for the E-RAB (b). Actions: TotalDlPdu{b} ++ 2.Trigger: MAC entity receives a NACK for the initial HARQ transmission of a MAC PDU in Dynamic Scheduling sent for the E-RAB (b). Actions: BadDlPdu{b} ++ 3.Trigger: E-RAB (b) is released (including dropped E-RABs). Actions: If (TotalDlPdu {b} > dlBlerMinPdu) then DlBler{b} = (BadDlPdu {b} / TotalDlPdu {b}) the sub-counter that corresponds to the DlBler {b} is incremented by 1 Else the screening Null is pegged, TotalDlPdu {b} = 0, BadDlPdu {b} = 0. 4.Trigger: At the end of the sampling period (5 seconds). Actions: Loop on every allocated E-RABs. If (TotalDlPdu {b} > dlBlerMinPdu) then DlBler {b} = (BadDlPdu {b} / TotalDlPdu {b}) the sub-counter that corresponds to the DlBler {b} is incremented by 1 Else screening Null is pegged, TotalDlPdu {b} = 0, BadDlPdu {b} = 0.
Subcounters	BLER threshold values. *#0: Description:* DL MAC BLER values lower than or equal to Threshold1. *Suffix 3GPP:* LEThreshold1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* DL MAC BLER values greater than Threshold1 and lower than or equal to Threshold2. *Suffix 3GPP:* GTThreshold1LEThreshold2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#2: Description: DL MAC BLER values greater than Threshold2 and lower than or equal to Threshold3.
	Suffix 3GPP: GTThreshold2LEThreshold3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: DL MAC BLER values greater than Threshold3 and lower than or equal to Threshold4.
	Suffix 3GPP: GTThreshold3LEThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: DL MAC BLER values greater than Threshold4.
	Suffix 3GPP: GTThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	MAC BLER
Report group	Mandatory
3GPP name	VS.DLInitialMacBLERWithDynamicScheduling
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	N/A
Notes	dlBlerMinPdu and the 4 values used as screenings' criteria are hard coded. dlBlerMinPdu = 0, Threshold0=1%, Threshold1=5%, Threshold2= 10%, Threshold3= 20%, Threshold4= 50%. Information available in LA1.0 through UPOS traces. This counter includes packets with first HARQ transmission scheduled by Dynamic Scheduler of VoIP SPS bearer. This does not include packets with first HARQ transmission scheduled by Semi-Persistent Scheduler of VoIP SPS bearer.

12009 - Uplink residual MAC BLER with dynamic scheduling

This counter provides a distribution of residual Dynamic Scheduling MAC BLER values measured in uplink direction. The PUSCH transmission corresponding to the embedded uplink grant in Random Access Response (also known as msg3) is excluded for this counter. In order to avoid pegging the counter with non-representative values, BLER values is only taken into account if at least ulBlerMinPdu PDUs have been sent.

Counter Information	Counter Value/Description
Counter Code	12009
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: MAC entity receives the initial HARQ transmission of a PUSCH packet using dynamic scheduling. Note the PUSCH packet that corresponds to the embedded UL grant in Random Access Response (also known as msg3) is not counted here. Actions: TotalUlPdu ++ 2.Trigger: the last HARQ transmission of a PUSCH packet sent in dynamic scheduling fails the Cyclic Redundancy Check. Similarly, the HARQ retransmission of a msg3 is not counted here. Actions: BadUlPdu ++ 3.Trigger: At the end of the sampling period (5 seconds). Actions: If (TotalUlPdu > ulBlerMinPdu) then UlBler = (BadUlPdu / TotalUlPdu) the sub-counter that corresponds to the UlBler is incremented by 1, TotalUlPdu = 0, BadUlPdu = 0. Else screening Null is pegged.
Subcounters	BLER threshold values. *#0: Description:* UL MAC BLER values lower than or equal to Threshold1. *Suffix 3GPP:* LEThreshold1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* UL MAC BLER values greater than Threshold1 and lower than or equal to Threshold2. *Suffix 3GPP:* GTThreshold1LEThreshold2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

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Counter Information	Counter Value/Description
	#2: Description: UL MAC BLER values greater than Threshold2 and lower than or equal to Threshold3.
	Suffix 3GPP: GTThreshold2LEThreshold3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: UL MAC BLER values greater than Threshold3 and lower than or equal to Threshold4.
	Suffix 3GPP: GTThreshold3LEThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: UL MAC BLER values greater than Threshold4.
	Suffix 3GPP: GTThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	MAC BLER
Report group	Mandatory
3GPP name	VS.ULResidualMacBLERWithDynamicScheduling
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	N/A
Notes	ulBlerMinPdu and the 4 values used as screenings' criteria are hard coded. ulBlerMinPdu = 0, Threshold1=1%, Threshold2= 2%, Threshold3= 5%, Threshold4= 10%. Information available in LA1.0 through UPOS traces.

12010 - Uplink initial MAC BLER with dynamic scheduling

This counter provides a distribution of initial Dynamic Scheduling MAC BLER values measured in uplink direction. The PUSCH transmission corresponding to the embedded uplink grant in Random Access Response (also known as msg3) is excluded for this counter. In order to avoid pegging the counter with non-representative values, BLER values is only taken into account if at least ulBlerMinPdu PDUs have been sent.

Counter Information	Counter Value/Description
Counter Code	12010
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: MAC entity receives the initial HARQ transmission of a PUSCH packet that corresponds to the embedded uplink grant in Random Access Response (also known as msg3) is not counted here. Actions: TotalUlPdu ++ 2.Trigger: Cyclic Redundancy Check error on the initial HARQ transmission of a PUSCH packet that corresponds to the embedded uplink grant in Random Access Response (also known as msg3) is not counted here. Actions: BadUlPdu 4.Trigger: At the end of the sampling period (5 seconds). Actions: If (TotalUlPdu > ulBlerMinPdu) then UlBler = (BadUlPdu / TotalUlPdu) the sub-counter that corresponds to the UlBler is incremented by 1, TotalUlPdu = 0, BadUlPdu = 0 Else screening Null is pegged.
Subcounters	BLER threshold values. *#0: Description:* UL MAC BLER values lower than or equal to Threshold1. *Suffix 3GPP:* LEThreshold1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* UL MAC BLER values greater than Threshold1 and lower than or equal to Threshold2. *Suffix 3GPP:* GTThreshold1LEThreshold2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#2: Description: UL MAC BLER values greater than Threshold2 and lower than or equal to Threshold3.
	Suffix 3GPP: GTThreshold2LEThreshold3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: UL MAC BLER values greater than Threshold3 and lower than or equal to Threshold4.
	Suffix 3GPP: GTThreshold3LEThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: UL MAC BLER values greater than Threshold4.
	Suffix 3GPP: GTThreshold4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	MAC BLER
Report group	Mandatory
3GPP name	VS.ULInitialMacBLERWithDynamicScheduling
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	N/A
Notes	ulBlerMinPdu and the 4 values used as screenings' criteria are hard coded. ulBlerMinPdu= 0, Threshold0=1%, Threshold1=5%, Threshold2= 10%, RangeThreshold3= 20%, Threshold4= 50%. Information available in LA1.0 through UPOS traces.

12011 - Downlink data volume with dynamic scheduling per user category

This counter provides the total amount of L1 new data sent by the downlink dynamic scheduler on PDSCH for users that have been categorized as either Frequency Diverse users or Frequency Selective users. HARQ retransmission data are not included.

Counter Information	Counter Value/Description
Counter Code	12011
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when downlink dynamic scheduler makes a scheduling decision for a new PDSCH transmission (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer. Action: the total amount of downlink data sent for this user is added to the screening that corresponds to the user category (frequency diverse user or frequency selective user).
Subcounters	Category of user: Frequency Selective or Frequency Diverse user. *#0: Description:* Downlink data volume for Frequency Diverse users. *Suffix 3GPP:* FDUsers *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Downlink data volume for Frequency Selective users. *Suffix 3GPP:* FSUsers *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Dynamic scheduling
Report group	Mandatory
3GPP name	VS.DLDataVolumeWithDynamicSchedulingPerUserCategory
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	KiBytes
Notes	This counter also includes packets with first HARQ transmission scheduled by Dynamic Scheduler of VoIP SPS bearer but not retransmissions. This does not include packets with first HARQ transmission scheduled by Semi-Persistent Scheduler of VoIP SPS bearer.

12013 - Uplink data volume with dynamic scheduling per user category

This counter provides the total amount of L1 new data (useful data + padding bytes) scheduled by the uplink dynamic scheduler on PUSCH for users that have been categorized as either Frequency Diverse users or Frequency Selective users. HARQ retransmission data are not included.

Counter Information	Counter Value/Description
Counter Code	12013
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when uplink dynamic scheduler makes a scheduling decision for a new PUSCH transmission (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer. Action: the total amount of uplink data received for this user is added to the screening that corresponds to the user category (frequency diverse user or frequency selective user).
Subcounters	Category of user: Frequency Selective or Frequency Diverse user.
	#0: Description: Uplink data volume for Frequency Diverse users.
	Suffix 3GPP: FDUsers
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Uplink data volume for Frequency Selective users.
	Suffix 3GPP: FSUsers
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Dynamic scheduling
Report group	Mandatory
3GPP name	VS.ULDataVolumeWithDynamicSchedulingPerUserCategory
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	KiBytes
Notes	This counter also includes packets with first HARQ transmission scheduled by Dynamic Scheduler of VoIP SPS bearer but not retransmissions. This does not include packets with first HARQ transmission scheduled by Semi-Persistent Scheduler of VoIP SPS bearer.

12015 - Downlink PRB used with dynamic scheduling per user category

This counter provides the total number of PRBs that have been assigned by the downlink dynamic scheduler on PDSCH for users that have been categorized as either Frequency Diverse users or Frequency Selective users. PRBs used for both initial packet transmissions and HARQ retransmissions are included.

Counter Information	Counter Value/Description
Counter Code	12015
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when downlink dynamic scheduler makes a scheduling decision (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer. Both initial packet transmissions and HARQ retransmissions are included. Action: the total number of downlink PRBs that have been assigned for this user is added to the screening that corresponds to the user category (frequency diverse user or frequency selective user).
Subcounters	Category of user: Frequency Selective or Frequency Diverse user. *#0: Description:* Downlink number of PRBs for Frequency Diverse users. *Suffix 3GPP:* FDUsers *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Downlink number of PRBs for Frequency Selective users. *Suffix 3GPP:* FSUsers *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Dynamic scheduling
Report group	Mandatory
3GPP name	VS.DLPRBUsedWithDynamicSchedulingPerUserCategory
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	PRB

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12017 - Uplink PRB used with dynamic scheduling per user category

This counter provides the total number of PRBs that have been assigned by the uplink dynamic scheduler on PUSCH for users that have been categorized as either Frequency Diverse users or Frequency Selective users. PRBs used for both initial packet transmissions and HARQ retransmissions are included.

Counter Information	Counter Value/Description
Counter Code	12017
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when uplink dynamic scheduler makes a scheduling decision (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer. Both initial packet transmissions and HARQ retransmissions are included. Action: the total number of uplink PRBs that have been assigned for this user is added to the screening that corresponds to the user category (frequency diverse user or frequency selective user).
Subcounters	Category of user: Frequency Selective or Frequency Diverse user. *#0: Description:* Uplink number of PRBs for Frequency Diverse users. *Suffix 3GPP:* FDUsers *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Uplink number of PRBs for Frequency Selective users. *Suffix 3GPP:* FSUsers *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Dynamic scheduling
Report group	Mandatory
3GPP name	VS.ULPRBUsedWithDynamicSchedulingPerUserCategory
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	PRB

12019 - PUCCH messages per type

This counter provides the average and maximum number of PUCCH messages per type received in the cell. The average value is obtained by dividing the cumulative value of the messages by the elapsed time.

Counter Information	Counter Value/Description
Counter Code	12019
Counter Type	VALUE
Triggering (Event)	This counter is triggered on each TTI. On reception of each message from PUCCH, the screening related to the type of message is pegged.
Subcounters	Type of message.
	#0: Description: Number of periodic Channel Quality Indication/Precoding Matrix Indicator /Rank Indicator (format-2) that have been configured. (Physical resources on PUCCH available for transmission of CQI, PMI, RI for each UE are defined by configured information and carried in the physical Config Dedicated Information Element of the RRCConnectionRe-configuration message).
	Suffix 3GPP: PcqiPmiRiConf
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Number of Scheduling Request that have been received.
	Suffix 3GPP: SRRec
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Number of Scheduling Requests that have been configured. (Physical resources on PUCCH available for transmission of scheduling requests for each UE are defined by configured information and carried in the Scheduling Request Information Element of the RRCConnectionReconfiguration message).
	Suffix 3GPP: SRConf
	Triggering Event: This counter is triggered every TTI and provides the total number of Scheduling Requests configured.
	Report group: Mandatory
Subfamily	Dynamic scheduling

Counter Information	Counter Value/Description
Report group	Mandatory
3GPP name	VS.PUCCHMessagesPerType
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12023 - PUCCH channel quality indication period histogram

This counter provides the histogram on the PUCCH channel quality indication period.

Counter Information	Counter Value/Description
Counter Code	12023
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a new L1 connection request is accepted. The screening depending on the number of subframes assigned is pegged.
Subcounters	Number of subframes. *#0: Description:* Number of L1 connection with PUCCH channel quality indication period equal 20 ms or less. *Suffix 3GPP:* LE20ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of L1 connection with PUCCH channel quality indication period equal 40 ms. *Suffix 3GPP:* 40ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of L1 connection with PUCCH channel quality indication period equal 80 ms. *Suffix 3GPP:* 80ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Number of L1 connection with PUCCH channel quality indication period greater than 80 ms. *Suffix 3GPP:* GT80ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	PUCCH
Report group	Mandatory
3GPP name	VS.PUCCHCQIPeriodHistogram
Object Class	EutranCell
Range	0 to $2^{32}-1$

Counter Information	Counter Value/Description
Unit	EVENT

12024 - PUCCH scheduling request period histogram

This counter provides the histogram on the PUCCH scheduling request period.

Counter Information	Counter Value/Description
Counter Code	12024
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a new L1 connection request is accepted. The screening depending on the number of subframes assigned is pegged.
Subcounters	Number of subframes.
	#0: Description: Number of L1 connection with PUCCH scheduling request period equal 20 ms or less.
	Suffix 3GPP: LE20ms
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Number of L1 connection with PUCCH scheduling request period equal 40 ms.
	Suffix 3GPP: 40ms
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Number of L1 connection with PUCCH scheduling request period equal 80 ms.
	Suffix 3GPP: 80ms
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Number of L1 connection with PUCCH scheduling request period greater than 80 ms.
	Suffix 3GPP: GT80ms
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	PUCCH
Report group	Mandatory
3GPP name	VS.PUCCHSRPeriodHistogram
Object Class	EutranCell
Range	0 to 2^{32}-1

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Counter Information	Counter Value/Description
Unit	EVENT

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12025 - PUCCH sounding reference symbol period histogram

This counter provides the histogram on the PUCCH sounding reference symbol period.

Counter Information	Counter Value/Description
Counter Code	12025
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a new L1 connection request is accepted. The screening depending on the number of subframes assigned is pegged.
Subcounters	Number of subframes. *#0: Description:* Number of L1 connection with PUCCH sounding reference symbol period equal 20 ms or less. *Suffix 3GPP:* LE20ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of L1 connection with PUCCH sounding reference symbol period equal 40 ms. *Suffix 3GPP:* 40ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of L1 connection with PUCCH sounding reference symbol period equal 80 ms. *Suffix 3GPP:* 80ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* LA3.0 - Number of L1 connection with PUCCH sounding reference symbol period greater than 80 ms. *Suffix 3GPP:* GT80ms *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	PUCCH
Report group	Mandatory
3GPP name	VS.PUCCHSRSPeriodHistogram
Object Class	EutranCell
Range	0 to $2^{32}-1$

Counter Information	Counter Value/Description
Unit	EVENT

12026 - Control format indicator usage

This counter provides the distribution of the usage of each of the three possible CFI values.

Counter Information	Counter Value/Description
Counter Code	12026
Counter Type	CUMULATE
Triggering (Event)	This counter is pegged at every sub-frame. The screening corresponding to the CFI value used for the sub-frame is incremented by 1.
Subcounters	CFI value. *#0: Description:* Number of sub-frames in which CFI was set to 1. *Suffix 3GPP:* CFI1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of sub-frames in which CFI was set to 2. *Suffix 3GPP:* CFI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of sub-frames in which CFI was set to 3. *Suffix 3GPP:* CFI3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	PDCCH
Report group	Mandatory
3GPP name	VS.CFIUsage
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12027 - Uplink noise per PRB group

This counter gives the distribution per 4 PRBs group of Uplink noise monitored on the cell. It means that for each PRB of the group, the measure is done and the corresponding counter range is incremented. This counter will be duplicated for each 4 PRBs Group of the cell.

Counter Information	Counter Value/Description
Counter Code	12027
Counter Type	CUMULATE
Triggering (Event)	This counter is pegged based on the long term period (period duration configurable and set to 100ms by default) averaged NoisePower metric computed by the eNodeB for each PRB. The counter is updated every 1000 radio frames with the latest computed noise value for the corresponding 4 PRBs group (the screening (sub-counter) that corresponds to the NoisePower value is incremented by 1).
Subcounters	Per range of Uplink noise (5) and per 4 PRBs Group (25).
	#0: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs Group1.
	Suffix 3GPP: LeRg1PRBg1
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#1: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group1.
	Suffix 3GPP: GtRg1LeRg2PRBg1
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#2: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group1.
	Suffix 3GPP: GtRg2LeRg3PRBg1
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#3: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group1.
	Suffix 3GPP: GtRg3LeRg4PRBg1
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#4: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group1.
	Suffix 3GPP: GtRg4PRBg1
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#5: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group2.
	Suffix 3GPP: LeRg1PRBg2
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#6: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group2.
	Suffix 3GPP: GtRg1LeRg2PRBg2
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#7: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group2.
	Suffix 3GPP: GtRg2LeRg3PRBg2
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#8: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group2.
	Suffix 3GPP: GtRg3LeRg4PRBg2
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#9: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group2.
	Suffix 3GPP: GtRg4PRBg2
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#10: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group3.
	Suffix 3GPP: LeRg1PRBg3
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#11: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group3.
	Suffix 3GPP: GtRg1LeRg2PRBg3
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#12: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group3.
	Suffix 3GPP: GtRg2LeRg3PRBg3
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#13: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group3.
	Suffix 3GPP: GtRg3LeRg4PRBg3
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#14: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group3.
	Suffix 3GPP: GtRg4PRBg3
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#15: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group4.
	Suffix 3GPP: LeRg1PRBg4
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#16: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group4.
	Suffix 3GPP: GtRg1LeRg2PRBg4
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#17: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group4.
	Suffix 3GPP: GtRg2LeRg3PRBg4
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#18: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group4.
	Suffix 3GPP: GtRg3LeRg4PRBg4
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#19: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group4.
	Suffix 3GPP: GtRg4PRBg4
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#20: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group5.
	Suffix 3GPP: LeRg1PRBg5
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#21: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group5.
	Suffix 3GPP: GtRg1LeRg2PRBg5
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#22: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group5.
	Suffix 3GPP: GtRg2LeRg3PRBg5
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#23: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group5.
	Suffix 3GPP: GtRg3LeRg4PRBg5
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#24: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group5.
	Suffix 3GPP: GtRg4PRBg5
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#25: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group6.
	Suffix 3GPP: LeRg1PRBg6
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#26: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group6.
	Suffix 3GPP: GtRg1LeRg2PRBg6
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#27: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group6.
	Suffix 3GPP: GtRg2LeRg3PRBg6
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#28: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group6.
	Suffix 3GPP: GtRg3LeRg4PRBg6
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#29: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group6.
	Suffix 3GPP: GtRg4PRBg6
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#30: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group7.
	Suffix 3GPP: LeRg1PRBg7
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#31: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group7.
	Suffix 3GPP: GtRg1LeRg2PRBg7
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#32: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group7.
	Suffix 3GPP: GtRg2LeRg3PRBg7
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#33: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group7.
	Suffix 3GPP: GtRg3LeRg4PRBg7
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#34: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group7.
	Suffix 3GPP: GtRg4PRBg7
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#35: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group8.
	Suffix 3GPP: LeRg1PRBg8
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#36: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group8.
	Suffix 3GPP: GtRg1LeRg2PRBg8
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#37: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group8.
	Suffix 3GPP: GtRg2LeRg3PRBg8
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#38: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group8.
	Suffix 3GPP: GtRg3LeRg4PRBg8
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#39: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group8.
	Suffix 3GPP: GtRg4PRBg8
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#40: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group9.
	Suffix 3GPP: LeRg1PRBg9
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#41: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group9.
	Suffix 3GPP: GtRg1LeRg2PRBg9
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#42: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group9.
	Suffix 3GPP: GtRg2LeRg3PRBg9
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#43: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group9.
	Suffix 3GPP: GtRg3LeRg4PRBg9
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#44: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group9.
	Suffix 3GPP: GtRg4PRBg9
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#45: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group10.
	Suffix 3GPP: LeRg1PRBg10
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#46: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group10.
	Suffix 3GPP: GtRg1LeRg2PRBg10
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#47: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group10.
	Suffix 3GPP: GtRg2LeRg3PRBg10
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#48: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group10.
	Suffix 3GPP: GtRg3LeRg4PRBg10
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#49: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group10.
	Suffix 3GPP: GtRg4PRBg10
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#50: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group11.
	Suffix 3GPP: LeRg1PRBg11
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#51: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group11.
	Suffix 3GPP: GtRg1LeRg2PRBg11
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#52: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group11.
	Suffix 3GPP: GtRg2LeRg3PRBg11
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#53: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group11.
	Suffix 3GPP: GtRg3LeRg4PRBg11
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#54: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group11.
	Suffix 3GPP: GtRg4PRBg11
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#55: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group12.
	Suffix 3GPP: LeRg1PRBg12
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#56: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group12.
	Suffix 3GPP: GtRg1LeRg2PRBg12
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#57: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group12.
	Suffix 3GPP: GtRg2LeRg3PRBg12
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#58: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group12.
	Suffix 3GPP: GtRg3LeRg4PRBg12
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#59: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group12.
	Suffix 3GPP: GtRg4PRBg12
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#60: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group13.
	Suffix 3GPP: LeRg1PRBg13
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#61: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group13.
	Suffix 3GPP: GtRg1LeRg2PRBg13
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#62: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group13.
	Suffix 3GPP: GtRg2LeRg3PRBg13
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#63: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group13.
	Suffix 3GPP: GtRg3LeRg4PRBg13
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#64: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group13.
	Suffix 3GPP: GtRg4PRBg13
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#65: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group14.
	Suffix 3GPP: LeRg1PRBg14
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#66: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group14.
	Suffix 3GPP: GtRg1LeRg2PRBg14
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

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Counter Information	Counter Value/Description
	#67: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group14.
	Suffix 3GPP: GtRg2LeRg3PRBg14
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#68: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group14.
	Suffix 3GPP: GtRg3LeRg4PRBg14
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#69: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group14.
	Suffix 3GPP: GtRg4PRBg14
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#70: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group15.
	Suffix 3GPP: LeRg1PRBg15
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#71: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group15.
	Suffix 3GPP: GtRg1LeRg2PRBg15
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#72: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group15.
	Suffix 3GPP: GtRg2LeRg3PRBg15
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#73: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group15.
	Suffix 3GPP: GtRg3LeRg4PRBg15
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#74: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group15.
	Suffix 3GPP: GtRg4PRBg15
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#75: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group16.
	Suffix 3GPP: LeRg1PRBg16
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#76: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group16.
	Suffix 3GPP: GtRg1LeRg2PRBg16
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#77: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group16.
	Suffix 3GPP: GtRg2LeRg3PRBg16
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#78: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group16.
	Suffix 3GPP: GtRg3LeRg4PRBg16
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#79: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group16.
	Suffix 3GPP: GtRg4PRBg16
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#80: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group17.
	Suffix 3GPP: LeRg1PRBg17
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#81: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group17.
	Suffix 3GPP: GtRg1LeRg2PRBg17
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#82: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group17.
	Suffix 3GPP: GtRg2LeRg3PRBg17
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#83: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group17.
	Suffix 3GPP: GtRg3LeRg4PRBg17
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#84: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group17.
	Suffix 3GPP: GtRg4PRBg17
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#85: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group18.
	Suffix 3GPP: LeRg1PRBg18
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#86: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group18.
	Suffix 3GPP: GtRg1LeRg2PRBg18
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#87: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group18.
	Suffix 3GPP: GtRg2LeRg3PRBg18
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#88: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group18.
	Suffix 3GPP: GtRg3LeRg4PRBg18
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#89: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group18.
	Suffix 3GPP: GtRg4PRBg18
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#90: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group19.
	Suffix 3GPP: LeRg1PRBg19
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#91: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group19.
	Suffix 3GPP: GtRg1LeRg2PRBg19
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#92: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group19.
	Suffix 3GPP: GtRg2LeRg3PRBg19
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#93: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group19.
	Suffix 3GPP: GtRg3LeRg4PRBg19
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#94: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group19.
	Suffix 3GPP: GtRg4PRBg19
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

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Counter Information	Counter Value/Description
	#95: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group20.
	Suffix 3GPP: LeRg1PRBg20
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#96: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group20.
	Suffix 3GPP: GtRg1LeRg2PRBg20
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#97: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group20.
	Suffix 3GPP: GtRg2LeRg3PRBg20
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#98: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group20.
	Suffix 3GPP: GtRg3LeRg4PRBg20
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#99: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group20.
	Suffix 3GPP: GtRg4PRBg20
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#100: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group21.
	Suffix 3GPP: LeRg1PRBg21
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#101: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group21.
	Suffix 3GPP: GtRg1LeRg2PRBg21
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#102: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group21.
	Suffix 3GPP: GtRg2LeRg3PRBg21
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#103: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group21.
	Suffix 3GPP: GtRg3LeRg4PRBg21
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#104: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group21.
	Suffix 3GPP: GtRg4PRBg21
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#105: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group22.
	Suffix 3GPP: LeRg1PRBg22
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#106: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group22.
	Suffix 3GPP: GtRg1LeRg2PRBg22
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#107: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group22.
	Suffix 3GPP: GtRg2LeRg3PRBg22
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#108: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group22.
	Suffix 3GPP: GtRg3LeRg4PRBg22
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#109: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group22.
	Suffix 3GPP: GtRg4PRBg22
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#110: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group23.
	Suffix 3GPP: LeRg1PRBg23
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#111: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group23.
	Suffix 3GPP: GtRg1LeRg2PRBg23
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#112: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group23.
	Suffix 3GPP: GtRg2LeRg3PRBg23
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#113: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group23.
	Suffix 3GPP: GtRg3LeRg4PRBg23
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#114: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group23.
	Suffix 3GPP: GtRg4PRBg23
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#115: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group24.
	Suffix 3GPP: LeRg1PRBg24
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#116: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group24.
	Suffix 3GPP: GtRg1LeRg2PRBg24
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#117: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group24.
	Suffix 3GPP: GtRg2LeRg3PRBg24
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#118: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group24.
	Suffix 3GPP: GtRg3LeRg4PRBg24
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#119: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group24.
	Suffix 3GPP: GtRg4PRBg24
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#120: Description: Number of Uplink noise values lower or equal to Range1 for 4 PRBs group25.
	Suffix 3GPP: LeRg1PRBg25
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#121: Description: Number of Uplink noise values greater than Range1 and lower or equal to Range2 for 4 PRBs group25.
	Suffix 3GPP: GtRg1LeRg2PRBg25
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#122: Description: Number of Uplink noise values greater than Range2 and lower or equal to Range3 for 4 PRBs group25.
	Suffix 3GPP: GtRg2LeRg3PRBg25
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise

Counter Information	Counter Value/Description
	#123: Description: Number of Uplink noise values greater than Range3 and lower or equal to Range4 for 4 PRBs group25.
	Suffix 3GPP: GtRg3LeRg4PRBg25
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
	#124: Description: Number of Uplink noise values greater than Range4 for 4 PRBs group25.
	Suffix 3GPP: GtRg4PRBg25
	Triggering Event: Please refer to common triggering event.
	Report group: ULNoise
Subfamily	Uplink noise
Report group	Mandatory
3GPP name	VS.ULNoisePerPRBGroup
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	The 4 values used as screenings' criteria are hard coded. Range1= -115 db, Range2= -112 db, Range3= -105 db, Range4= -90 db. This counter is a 'On demand' counter. In the future releases it will not be systematically reported to the EMS.

12030 - Cell downlink L1 throughput load

This counter provides the average, maximum and minimum downlink throughput (including HARQ retransmissions) experienced on the L1 shared channels of the cell. The counter is sampled every 5 seconds and updated based on throughput values computed globally for every mobiles scheduled on the cell during this sampling period.

Counter Information	Counter Value/Description
Counter Code	12030
Counter Type	LOAD
Triggering (Event)	1.Trigger: MAC entity sends a MAC PDU on the L1 channel (including HARQ retransmissions). Actions: L1DlPayload += TBS 2.Trigger: Every TTI. Actions: If at least one MAC PDU has been sent on L1 channel during this TTI then nbDlL1TTI++. 3.Trigger: At the end of the sampling period (5 seconds). Actions: L1DlThroughput = (L1DlPayload / (nbDlL1TTI * ttiDuration)). L1DlPayload = 0, nbDlL1TTI = 0.
Subcounters	Not defined
Subfamily	Cell Throughput
Report group	Mandatory
3GPP name	VS.CellDLL1ThroughputLoad
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kbits/s

12031 - Cell uplink L1 throughput load

This counter provides the average, maximum and minimum uplink throughput (including HARQ retransmissions) experienced on the L1 shared channels of the cell. The counter is sampled every 5 seconds and updated based on throughput values computed globally for every mobiles scheduled on the cell during this sampling period.

Counter Information	Counter Value/Description
Counter Code	12031
Counter Type	LOAD
Triggering (Event)	1.Trigger: MAC entity receives a MAC PDU on the L1 channel. Actions: L1UlPayload += TBS 2.Trigger: Every TTI. Actions: If at least one PDU has been received on L1 channel during this TTI then nbUlL1TTI++.. 3.Trigger: At the end of the sampling period (5 seconds). Actions: L1UlThroughput = (L1UlPayload / (nbUlL1TTI * ttiDuration)). L1UlPayload = 0, nbUlL1TTI = 0.
Subcounters	Not defined
Subfamily	Cell Throughput
Report group	Mandatory
3GPP name	VS.CellULL1ThroughputLoad
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kbits/s

12032 - Downlink PRB used

This counter provides the average, maximum and minimum number of downlink PRBs that have been assigned by the downlink scheduler in the cell. The counter is sampled every time frame and updated based on the number of downlink PRBs computed globally for every mobiles scheduled on the cell during this sampling period.

Counter Information	Counter Value/Description
Counter Code	12032
Counter Type	LOAD
Triggering (Event)	This counter is triggered when downlink scheduler makes a scheduling decision (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer. Action: add to the sample value, the total number of downlink PRBs that have been assigned for this user.
Subcounters	Not defined
Subfamily	Physical Resource Block
Report group	Mandatory
3GPP name	VS.DLPRBUsed
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	PRB
Notes	Time frame is 10 milliseconds.

12033 - Uplink PRB used

This counter provides the average, maximum and minimum number of uplink PRBs that have been assigned by the uplink scheduler in the cell. The counter is sampled every time frame and updated based on the number of uplink PRBs computed globally for every mobiles scheduled on the cell during this sampling period.

Counter Information	Counter Value/Description
Counter Code	12033
Counter Type	LOAD
Triggering (Event)	This counter is triggered when uplink scheduler makes a scheduling decision (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer. Action: add to the sample value, the total number of uplink PRBs that have been assigned for this user.
Subcounters	Not defined
Subfamily	Physical Resource Block
Report group	Mandatory
3GPP name	VS.ULPRBUsed
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	PRB
Notes	Time frame is 10 milliseconds.

12037 - Downlink PRB allocated

This counter provides the average, maximum and minimum number of downlink PRBs that have been allocated by the PRB allocator to the cell. The counter is sampled every time after the PRB allocator checks the PRB allocation for all cells on the modem and updated based on the PRBs allocated to each cell for the checking period. This counter is only relevant for bCEM. In case of eCEM, values zero are reported.

Counter Information	Counter Value/Description
Counter Code	12037
Counter Type	LOAD
Triggering (Event)	This counter is triggered when the PRB allocator completes a periodic check on the PRB allocations and determines the new PRB allocation to each cell. Action: add to the sample value, the total number of downlink PRBs that have been allocated to this cell.
Subcounters	Not defined
Subfamily	Physical Resource Block
Report group	SpecificFDD
3GPP name	VS.DLPRBAllocated
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	PRB

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12038 - Uplink PRB allocated

This counter provides the average, maximum and minimum number of uplink PRBs that have been allocated by the PRB allocator to the cell. The counter is sampled every time after the PRB allocator checks the PRB allocation for all cells on the modem and updated based on the PRBs allocated to each cell for the checking period. This counter is only relevant for bCEM. In case of eCEM, values zero are reported.

Counter Information	Counter Value/Description
Counter Code	12038
Counter Type	LOAD
Triggering (Event)	This counter is triggered when the PRB allocator completes a periodic check on the PRB allocations and determines the new PRB allocation to each cell. Action: add to the sample value, the total number of uplink PRBs that have been allocated to the cell.
Subcounters	Not defined
Subfamily	Physical Resource Block
Report group	SpecificFDD
3GPP name	VS.ULPRBAllocated
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	PRB

12039 - Downlink PRB used per type of service

This counter provides the average, maximum and minimum number of downlink PRBs that have been assigned by the downlink scheduler to the concerned PLMN in the cell. The counter is sampled every time frame and updated based on the number of downlink PRBs computed globally for every mobiles scheduled on the cell during this sampling period.

Counter Information	Counter Value/Description
Counter Code	12039
Counter Type	LOAD
Triggering (Event)	This counter is triggered when downlink scheduler makes a scheduling decision (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer belonging to a service type. For Non-GBR category, a further per-QCI screening is added. Action: add to the sample value, the total number of downlink PRBs that have been assigned for this user.
Subcounters	Type of service. *#0: Description:* VoIP Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* VoIP *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Non-VoIP Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Non-Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI5 E-RAB. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2

Counter Information	Counter Value/Description
	#4: Description: QCI6 E-RAB.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#5: Description: QCI7 E-RAB.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#6: Description: QCI8 E-RAB.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#7: Description: QCI9 E-RAB.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
Subfamily	Physical Resource Block
Report group	Mandatory
3GPP name	VS.DLPRBUsedPerTypeService
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	PRB
Notes	Time frame is 10 milliseconds.

12040 - Uplink PRB used per type of service

This counter provides the average, maximum and minimum number of uplink PRBs that have been assigned by the uplink scheduler to the concerned PLMN in the cell. The counter is sampled every time frame and updated based on the number of uplink PRBs computed globally for every mobiles scheduled on the cell during this sampling period.

Note: This counter is introduced on bCEM only.

Counter Information	Counter Value/Description
Counter Code	12040
Counter Type	LOAD
Triggering (Event)	This counter is triggered when uplink scheduler makes a scheduling decision (including Transport Block Size, Resource Block Group assignment, etc) for a user bearer belonging to a service type. For Non-GBR service type, a further per-QCI screening is provided. Action: add to the sample value, the total number of uplink PRBs that have been assigned for this user.
Subcounters	Type of service. *#0: Description:* VoIP Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* VoIP *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Non-VoIP Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Non-Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI5 E-RAB. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2

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Counter Information	Counter Value/Description
	#4: Description: QCI6 E-RAB.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#5: Description: QCI7 E-RAB.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#6: Description: QCI8 E-RAB.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#7: Description: QCI9 E-RAB.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
Subfamily	Physical Resource Block
Report group	Mandatory
3GPP name	VS.ULPRBUsedPerTypeService
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	PRB
Notes	Time frame is 10 milliseconds.

12056 - Downlink PDSCH resource inefficiency due to lack of PDCCH resource

This counter provides the number of times dynamic scheduler is not able to transmit anymore on PDSCH due to lack of PDCCH resources.

Counter Information	Counter Value/Description
Counter Code	12056
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when downlink dynamic scheduler is not able to schedule any further PRB due to lack of PDCCH grants limited either by PDCCH power or CCE limitation. Action: the total number of occurrences where scheduler is not able to transmit is added to the counter, due to lack of PDCCH even though more PDSCH resources and candidate UEs/bearers are available.
Subcounters	Not defined
Subfamily	Dynamic scheduling
Report group	SpecificFDD
3GPP name	VS.DLPDSCHResourceInefficiencyDueToLackPDCCHResource
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12057 - Uplink PUSCH resource inefficiency due to lack of PDCCH resource

This counter provides the number of times dynamic scheduler is not able to transmit anymore on PUSCH due to lack of PDCCH resources.

Counter Information	Counter Value/Description
Counter Code	12057
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when uplink dynamic scheduler is not able to schedule any further PRB due to lack of PDCCH grants limited either by PDCCH power or CCE limitation. Action: the total number of occurrences where scheduler is not able to transmit is added to the counter, due to lack of PDCCH even though more PUSCH resources and candidate UEs/bearers are available.
Subcounters	Not defined
Subfamily	Dynamic scheduling
Report group	SpecificFDD
3GPP name	VS.ULPUSCHResourceInefficiencyDueToLackPDCCHResource
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12058 - PUCCH sounding reference symbol configuration reject

This counter provides the total number of PUCCH/SRS configuration requests that are rejected due to lack of PUCCH or SRS resource.

Counter Information	Counter Value/Description
Counter Code	12058
Counter Type	CUMULATE
Triggering (Event)	The counter is triggered and incremented whenever a PUCCH/SRS configuration request is rejected because PUCCH or SRS configuration can not be given.
Subcounters	Not defined
Subfamily	PUCCH
Report group	Mandatory
3GPP name	VS.PUCCHSoundingReferenceSymbolConfigurationReject
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12059 - PUCCH sounding reference symbol configuration success

This counter provides the total number of PUCCH/SRS configuration requests successfully assigned.

Counter Information	Counter Value/Description
Counter Code	12059
Counter Type	CUMULATE
Triggering (Event)	The counter is triggered and incremented whenever a PUCCH/SRS configuration request is successfully assigned.
Subcounters	Not defined
Subfamily	PUCCH
Report group	Mandatory
3GPP name	VS.PUCCHSoundingReferenceSymbolConfigurationSuccess
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12060 - TTI usage for PUSCH per PRB group

This counter provides the number of TTIs each UL PRB group has been used for PUSCH traffic in the reporting interval. There are 25 screenings for this counter one for each PRB group. The PRB group composition is 'system bandwidth' aware: if BW = 5MHz then report each screening for each PRB, if it is 10MHz then report each screening per 2PRBs and so on.

Counter Information	Counter Value/Description
Counter Code	12060
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered at given PRB group when modem receives the initial UL PUSCH transmission as well as all the UL retransmissions using the same PRB group. This is irrespective if an ACK or NACK was issued as a result. This also means if PRB resource is configured for PUCCH then this counter should not be incremented for those PRB indices. Action: the total number of TTI occurrences where scheduler received the PUSCH initial transmission as well as retransmission for each PRB in the group are counted.
Subcounters	PRB group number. *#0: Description:* Number of TTIs PRB group index 0 used for PUSCH. *Suffix 3GPP:* PRBg0 *Triggering Event:* Please refer to common triggering event. *Report group:* PerPRBMeasurement *#1: Description:* Number of TTIs PRB group index 1 used for PUSCH. *Suffix 3GPP:* PRBg1 *Triggering Event:* Please refer to common triggering event. *Report group:* PerPRBMeasurement *#2: Description:* Number of TTIs PRB group index 2 used for PUSCH. *Suffix 3GPP:* PRBg2 *Triggering Event:* Please refer to common triggering event. *Report group:* PerPRBMeasurement

Counter Information	Counter Value/Description
	#3: Description: Number of TTIs PRB group index 3 used for PUSCH.
	Suffix 3GPP: PRBg3
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#4: Description: Number of TTIs PRB group index 4 used for PUSCH.
	Suffix 3GPP: PRBg4
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#5: Description: Number of TTIs PRB group index 5 used for PUSCH.
	Suffix 3GPP: PRBg5
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#6: Description: Number of TTIs PRB group index 6 used for PUSCH.
	Suffix 3GPP: PRBg6
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#7: Description: Number of TTIs PRB group index 7 used for PUSCH.
	Suffix 3GPP: PRBg7
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#8: Description: Number of TTIs PRB group index 8 used for PUSCH.
	Suffix 3GPP: PRBg8
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#9: Description: Number of TTIs PRB group index 9 used for PUSCH.
	Suffix 3GPP: PRBg9
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement

Counter Information	Counter Value/Description
	#10: Description: Number of TTIs PRB group index 10 used for PUSCH.
	Suffix 3GPP: PRBg10
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#11: Description: Number of TTIs PRB group index 11 used for PUSCH.
	Suffix 3GPP: PRBg11
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#12: Description: Number of TTIs PRB group index 12 used for PUSCH.
	Suffix 3GPP: PRBg12
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#13: Description: Number of TTIs PRB group index 13 used for PUSCH.
	Suffix 3GPP: PRBg13
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#14: Description: Number of TTIs PRB group index 14 used for PUSCH.
	Suffix 3GPP: PRBg14
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#15: Description: Number of TTIs PRB group index 15 used for PUSCH.
	Suffix 3GPP: PRBg15
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#16: Description: Number of TTIs PRB group index 16 used for PUSCH.
	Suffix 3GPP: PRBg16
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement

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Counter Information	Counter Value/Description
	#17: Description: Number of TTIs PRB group index 17 used for PUSCH.
	Suffix 3GPP: PRBg17
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#18: Description: Number of TTIs PRB group index 18 used for PUSCH.
	Suffix 3GPP: PRBg18
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#19: Description: Number of TTIs PRB group index 19 used for PUSCH.
	Suffix 3GPP: PRBg19
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#20: Description: Number of TTIs PRB group index 20 used for PUSCH.
	Suffix 3GPP: PRBg20
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#21: Description: Number of TTIs PRB group index 21 used for PUSCH.
	Suffix 3GPP: PRBg21
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#22: Description: Number of TTIs PRB group index 22 used for PUSCH.
	Suffix 3GPP: PRBg22
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
	#23: Description: Number of TTIs PRB group index 23 used for PUSCH.
	Suffix 3GPP: PRBg23
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement

Counter Information	Counter Value/Description
	#24: Description: Number of TTIs PRB group index 24 used for PUSCH.
	Suffix 3GPP: PRBg24
	Triggering Event: Please refer to common triggering event.
	Report group: PerPRBMeasurement
Subfamily	Dynamic scheduling
Report group	Mandatory
3GPP name	VS.TTIUsageForPUSCHPerPRBGroup
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	TTI

12062 - Cell downlink throughput

This counter provides the average, maximum and minimum number of successfully transmitted data bits in one second per downlink bandwidth of all active users during the granularity period. The counter is sampled every second and updated based on throughput value computed for all active users in the cell during this sampling period. Data bits refers to data bits measured at MAC layer. Retransmissions and overhead are excluded.

Counter Information	Counter Value/Description
Counter Code	12062
Counter Type	VALUE
Triggering (Event)	At the beginning of the granularity period: nbEvt=0, Cum=0. Each sampling period (1 second): If number of successfully transmitted data bits during the sampling period is not null then nbEvt= nbEvt+1, Sample=(Number data bits transmitted during the sampling period) * (total number PRBs during the sampling period - number PRBs used for overhead during the sampling period) / (Number utilized PRBs for data during the sampling period) Cum=Cum+Sample
Subcounters	Not defined
Subfamily	Cell Throughput
Report group	CustomerSpare1
3GPP name	VS.CellDLThroughput
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kbits/s

13 L2 Traffic and throughput

Overview

Purpose

The following counters are generated to get information on L2 Traffic and throughput:

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12101 - Non-GBR E-RAB RLC downlink throughput

This counter provides the distribution of the RLC downlink throughput experienced by non-GBR E-RABs on a cell. Throughput is computed over the periods of time during which RLC SDU buffers are still filled with data to be sent. In order to avoid pegging the counter with non-representative values, transfers with less than beDlThroughputMinKb kbits/s sent is not taken into account.

Counter Information	Counter Value/Description
Counter Code	12101
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: RLC entity receives data from the PDCP entity for Non-GBR E-RAB (b) for which the RLC SDU buffer was empty. Actions: StartTime{b} = 'current Timestamp', dlPayload{b} = 0. 2.Trigger: RLC entity sends a RLC PDU data to the MAC entity for Non-GBR E-RAB (b). Actions: dlPayload{b} += 'RLC PDU data size'. 3.Trigger: RLC entity empties the RLC SDU buffer of Non-GBR E-RAB (b). Actions: StopTime{b} = 'current Timestamp', If (dlPayload{b} > beDlThroughputMinKb) then dlThroughput{b} = (dlPayload{b} / (StopTime{b} ' StartTime{b})), the sub-counter that corresponds to the dlThroughput{b} is incremented by 1 else the counter is not pegged.
Subcounters	Data rate range values. *#0: Description:* Number of downlink RLC throughput values lower or equal to Range1. *Suffix 3GPP:* LeRange1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of downlink RLC throughput values greater than Range1 and lower or equal to Range2. *Suffix 3GPP:* GTRange1LeRange2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#2: Description: Number of downlink RLC throughput values greater than Range2 and lower or equal to Range3.
	Suffix 3GPP: GTRange2LeRange3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Number of downlink RLC throughput values greater than Range3 and lower or equal to Range4.
	Suffix 3GPP: GTRange3LeRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Number of downlink RLC throughput values greater than range4.
	Suffix 3GPP: GTRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB non-GBR
Report group	Mandatory
3GPP name	VS.NonGBRERABRlcThroughputDl
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	beDlThroughputMinKb and the 4 values used as screenings' criteria are hard coded : beDlThroughputMinKb=0 kbps, Range1=128 kbps, Range2= 512 kbps, Range3= 1000 kbps, Range4= 5000 kbps.

12102 - Non-GBR E-RAB RLC uplink throughput

This counter provides the distribution of the RLC uplink throughput experienced by Non-GBR E-RABs on a cell. Throughput is computed by dividing the RLC payload received from the MAC entity by the interval between the reception of the first PDU and the time the RLC SDU buffer is emptied. In order to avoid pegging the counter with non-representative values, transfers with less than beUlThroughputMinKb kbits/s (1000 bits/s) received is not taken into account.

Counter Information	Counter Value/Description
Counter Code	12102
Counter Type	CUMULATE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: RLC entity receives data from the MAC entity for Non-GBR E-RAB (b) for which no RLC PDUs have already been received and are waiting to be sent to the PDCP entity. Actions: StartTime{b} = 'current Timestamp', ulPayload{b} = 0. 2.Trigger: RLC entity sends data (a RLC SDU) to the PDCP entity for Non-GBR E-RAB (b) and at least one other RLC SDU is waiting to be sent to the PDCP entity for this E-RAB. Actions: ulPayload{b} += 'SDU data size'. 3.Trigger: RLC entity sends data (a RLC SDU) to the PDCP entity for Non-GBR E-RAB (b) and no other RLC SDU is waiting to be sent to the PDCP entity for this E-RAB. Actions: StopTime{b} = 'current Timestamp', ulPayload{b} += 'SDU data size', If (ulPayload{b} > beUlThroughputMinKb) then ulThroughput{b} = (ulPayload{b} / (StopTime{b} ' StartTime{b})), the sub-counter that corresponds to the ulThroughput{b} is incremented by 1 else the counter is not pegged.
Subcounters	Data rate range values. *#0: Description:* Number of uplink RLC throughput values lower or equal to Range1. *Suffix 3GPP:* LeRange1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of uplink RLC throughput values greater than Range1 and lower or equal to Range2. *Suffix 3GPP:* GTRange1LeRange2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#2: Description: Number of uplink RLC throughput values greater than Range2 and lower or equal to Range3.
	Suffix 3GPP: GTRange2LeRange3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Number of uplink RLC throughput values greater than Range3 and lower or equal to Range4.
	Suffix 3GPP: GTRange3LeRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Number of uplink RLC throughput values greater than range4.
	Suffix 3GPP: GTRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	E-RAB non-GBR
Report group	Mandatory
3GPP name	VS.NonGBRERABRlcThroughputUl
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	beUlThroughputMinKb and the 4 values used as screenings' are hard coded: beUlThroughputMinKb=0 kbps, Range1=128 kbps, Range2= 512 kbps, Range3= 1000 kbps, Range4= 5000 kbps.

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12105 - Downlink RLC PDU Kbytes

This counter provides the number of KiBytes (1024 Bytes) sent over RLC interface in downlink direction related to traffic in the cell. The measurement is made at PDU level. It considers retransmissions. Traffic sent on SRB is not considered.

Counter Information	Counter Value/Description
Counter Code	12105
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RLC PDU is provided to MAC layer, depending on type of service (SRB not taken into account). Number of bytes of the RLC PDU is then added to the matching screening. For nonGBR type of service, the pegging is per QCI.
Subcounters	Type of service. *#0: Description:* Voice over IP E-RAB. *Suffix 3GPP:* VoIP *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI5 E-RAB. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2 *#4: Description:* QCI6 E-RAB. *Suffix 3GPP:* QCI6 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2

Counter Information	Counter Value/Description
	#5: Description: QCI7 E-RAB.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#6: Description: QCI8 E-RAB.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
	#7: Description: QCI9 E-RAB.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: CustomerSpare2
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.DLRlcPduKbytes
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	KiBytes
Notes	Information available in LA1.0 through UPOS traces.

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12106 - Uplink RLC PDU Kbytes

This counter provides the number of KiBytes (1024 Bytes) sent over RLC interface in uplink direction related to traffic in the cell. The measurement is made at PDU level. It considers retransmissions. Traffic sent on SRB is not considered.

Counter Information	Counter Value/Description
Counter Code	12106
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each time when a RLC PDU is received from MAC layer. Number of bytes of the RLC PDU is then added to the matching screening (SRB not taken into account). For nonGBR type of service, the pegging is per QCI.
Subcounters	Type of service. *#0: Description:* Voice over IP E-RAB. *Suffix 3GPP:* VoIP *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* QCI5 E-RAB. *Suffix 3GPP:* QCI5 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2 *#4: Description:* QCI6 E-RAB. *Suffix 3GPP:* QCI6 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2

Counter Information	Counter Value/Description
	#5: Description: QCI7 E-RAB. *Suffix 3GPP:* QCI7 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2 *#6: Description:* QCI8 E-RAB. *Suffix 3GPP:* QCI8 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2 *#7: Description:* QCI9 E-RAB. *Suffix 3GPP:* QCI9 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare2
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.ULRlcPduKbytes
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	KiBytes
Notes	Information available in LA1.0 through UPOS traces.

12112 - GBR E-RAB satisfied

This counter provides the proportion of time during which GBR E-RABs have been satisfied with their required bit rate. This counter is specific to non VoIP GBR and only for downlink.

Counter Information	Counter Value/Description
Counter Code	12112
Counter Type	CUMULATE
Triggering (Event)	The counter is sampled and updated every second per GBR E-RAB according to whether or not the E-RAB's throughput matches the required bit rate. Note that the counter is only updated on active periods (when the RLC SDU buffer is not empty).
Subcounters	satisfied/unsatisfied. *#0: Description:* The E-RAB's throughput matches the required bit rate. *Suffix 3GPP:* Satisfied *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* The E-RAB's throughput does not match the required bit rate. *Suffix 3GPP:* Unsatisfied *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	E-RAB GBR
Report group	Mandatory
3GPP name	VS.GBRERABSatisfied
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12113 - Downlink RLC PDU sent

This counter provides the number of PDU blocks sent over RLC interface in downlink direction related to traffic in the cell, including retransmissions.

Counter Information	Counter Value/Description
Counter Code	12113
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RLC PDU is provided to MAC layer, depending on type of service (SRB not taken into account). For Non-GBR type of service, the pegging is per QCI.
Subcounters	Type of service. *#0: Description:* Voice over IP E-RAB. *Suffix 3GPP:* VoIP *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.DLRlcPduSent
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	PDU block
Notes	Information available in LA1.0 through UPOS traces.

12114 - Uplink RLC PDU received

This counter provides the number of PDU blocks received over RLC interface in uplink direction related to traffic in the cell, including retransmissions. Traffic received on SRB is not considered.

Counter Information	Counter Value/Description
Counter Code	12114
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each time a RLC PDU is received from MAC layer, depending on type of service (SRB not taken into account).
Subcounters	Type of service.
	#0: Description: Voice over IP E-RAB.
	Suffix 3GPP: VoIP
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Guaranteed Bit Rate E-RAB.
	Suffix 3GPP: OtherGBR
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Non-GBR E-RAB.
	Suffix 3GPP: NonGBR
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.ULRlcPduReceived
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	PDU block
Notes	Information available in LA1.0 through UPOS traces.

12115 - Downlink RLC PDU retransmitted

This counter provides the number of PDU blocks retransmitted over RLC interface in downlink direction related to traffic in the cell. Traffic sent on SRB is not considered.

Counter Information	Counter Value/Description
Counter Code	12115
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RLC PDU is sent to MAC layer at least for the second time (SRB not taken into account).
Subcounters	Type of service. *#0: Description:* Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* GBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.DLRlcPduRetransmitted
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	PDU block
Notes	Information available in LA1.0 through UPOS traces.

12120 - Non-GBR E-RAB RLC downlink throughput load

This counter provides the average, maximum and minimum RLC downlink throughput experienced by non-GBR E-RABs on a cell. Throughput is computed over the periods of time during which RLC SDU buffers are still filled with data to be sent.

Counter Information	Counter Value/Description
Counter Code	12120
Counter Type	LOAD
Triggering (Event)	1.Trigger: RLC entity receives data from the PDCP entity for Non-GBR E-RAB (b) for which the RLC SDU buffer was empty. Actions: StartTime{b} = 'current Timestamp'. dlPayload{b} = 0. 2.Trigger: RLC entity sends a RLC PDU data to the MAC entity for Non-GBR E-RAB (b). Actions: dlPayload{b} += 'RLC PDU data size'. 3.Trigger: RLC entity empties the RLC SDU buffer of Non-GBR E-RAB (b). Actions: StopTime{b} = 'current Timestamp'. dlThroughput{b} = (dlPayload{b} / (StopTime{b} ' StartTime{b})).
Subcounters	Not defined
Subfamily	E-RAB non-GBR
Report group	Mandatory
3GPP name	VS.NonGBRERABRlcThroughputDlLoad
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kbits/s

12121 - Non-GBR E-RAB RLC uplink throughput load

This counter provides the average, maximum and minimum RLC uplink throughput experienced by Non-GBR E-RABs on a cell. Throughput is computed by dividing the RLC payload received from the MAC entity by the interval between the reception of the first PDU and the time the RLC SDU buffer is emptied.

Counter Information	Counter Value/Description
Counter Code	12121
Counter Type	LOAD
Triggering (Event)	1.Trigger: RLC entity receives data from the MAC entity for Non-GBR E-RAB (b) for which no RLC PDUs have already been received and are waiting to be sent to the PDCP entity. Actions: StartTime{b} = 'current Timestamp'. ulPayload{b} = 0. 2.Trigger: RLC entity sends data (a RLC SDU) to the PDCP entity for Non-GBR E-RAB (b) and at least one other RLC SDU is waiting to be sent to the PDCP entity for this E-RAB. Actions: ulPayload{b} += 'SDU data size'. 3.Trigger: RLC entity sends data (a RLC SDU) to the PDCP entity for Non-GBR E-RAB (b) and no other RLC SDU is waiting to be sent to the PDCP entity for this E-RAB. Actions: StopTime{b} = 'current Timestamp'. ulPayload{b} += 'SDU data size'. ulThroughput{b} = (ulPayload{b} / (StopTime{b} ' StartTime{b})).
Subcounters	Not defined
Subfamily	E-RAB non-GBR
Report group	Mandatory
3GPP name	VS.NonGBRERABRlcThroughputUlLoad
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	kbits/s

12124 - Downlink RLC burst time

This counter measures in ms the total downlink burst times across all eRABs in the cell.

Counter Information	Counter Value/Description
Counter Code	12124
Counter Type	CUMULATE
Applicability	FDD
Triggering (Event)	This counter is triggered when the new PDCP data arrives to an empty RLC new data buffer, and stops when the RLC new data buffer becomes empty again, including the last TTI emptying the buffer. Detailed counting algorithm is : 1. Trigger: At the begining of the granularity period Actions: for each type of service s / QCI(q) , re-set BurstTime(s)=0, re-set BurstTime(q)=0 2. Trigger: RLC entity receives data from the PDCP entity for E-RAB (b) for which the RLC new data SDU buffer was empty. Actions: StartTime(b) = 'current TTI' 3.Trigger: RLC new data buffer becomes empty again after the transmission of the RLC PDU to the MAC entity for E-RAB b. Actions: StopTime(b) = 'current TTI', Say E-RAB b belongs to type of service s / QCI q BurstTime(s) += StopTime(b) - StartTime(b) BurstTime(q) += StopTime(b) - StartTime(b).
Subcounters	Type of service. *#0: Description:* Guaranteed Bit Rate E-RAB excluding VoIP (QCI1). *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *Applicability:* FDD *#1: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *Applicability:* FDD *#2: Description:* QCI2 E-RAB. *Suffix 3GPP:* QCI2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *Applicability:* FDD

Counter Information	Counter Value/Description
	#3: Description: QCI3 E-RAB.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#4: Description: QCI4 E-RAB.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#5: Description: QCI6 E-RAB.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#6: Description: QCI7 E-RAB.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#7: Description: QCI8 E-RAB.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#8: Description: QCI9 E-RAB.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.DLRlcBurstTime

Counter Information	Counter Value/Description
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	TTI
Notes	-

12125 - Downlink RLC last TTI time

This counter measures in ms the time spent as last TTIs of downlink data bursts.

Counter Information	Counter Value/Description
Counter Code	12125
Counter Type	CUMULATE
Applicability	FDD
Triggering (Event)	This counter is triggered when the last RLC PDU in the RLC new data buffer is provided to MAC layer. Detailed counting algorithm is: 1. Trigger: At the begining of the granularity period Actions: for each type of service s / QCI q, re-set LastTTITime (s)=0, re-set LastTTITime (q)=0 2. Trigger: RLC entity sends a RLC PDU data to the MAC entity for E-RAB b which results in the emptiness of the RLC new data buffer. Actions: Say E-RAB b belongs to type of service s / QCI q. LastTTITime (s) += 1 LastTTITime (q) += 1.
Subcounters	Type of service.
	#0: Description: Guaranteed Bit Rate E-RAB excluding VoIP (QCI1).
	Suffix 3GPP: OtherGBR
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#1: Description: Non-GBR E-RAB.
	Suffix 3GPP: NonGBR
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#2: Description: QCI2 E-RAB.
	Suffix 3GPP: QCI2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD

Counter Information	Counter Value/Description
	#3: Description: QCI3 E-RAB.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#4: Description: QCI4 E-RAB.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#5: Description: QCI6 E-RAB.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#6: Description: QCI7 E-RAB.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#7: Description: QCI8 E-RAB.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#8: Description: QCI9 E-RAB.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.DLRlcLastTTITime

Counter Information	Counter Value/Description
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	TTI
Notes	-

12126 - Downlink RLC burst size

This counter provides the number of KiBytes (1024 Bytes) sent over RLC interface for a data burst in the downlink direction. The measurement is made at PDU level. It does NOT consider RLC retransmissions or HARQ retransmissions.

Counter Information	Counter Value/Description
Counter Code	12126
Counter Type	CUMULATE
Applicability	FDD
Triggering (Event)	This counter is triggered when the new PDCP data arrives to an empty RLC new data buffer, and stops when the RLC new data buffer becomes empty again, including data from last TTI. Detailed counting algorithm is: 1. Trigger: At the begining of the granularity period Actions: for each type of service s / QCI q, re-set BurstSize(s)=0, re-set BurstSize(q)=0 2. Trigger: RLC entity receives data from the PDCP entity for Non-GBR E-RAB (b) for which the RLC SDU buffer was empty. Actions: dlPayload(b) = 0 3. Trigger: RLC entity sends a RLC PDU data to the MAC entity for E-RAB b Actions: dlPayload(b) += 'RLC PDU data size' 4. Trigger: RLC new data buffer becomes empty again aft er the transmission of the RLC PDU to the MAC entity. Actions: Say E-RAB b belongs to type of service s / QCI q. BurstSize(s) += dlPayload(b), BurstSize(q) += dlPayload(b).
Subcounters	Type of service. *#0: Description:* Guaranteed Bit Rate E-RAB excluding VoIP (QCI1). *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *Applicability:* FDD *#1: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *Applicability:* FDD

Counter Information	Counter Value/Description
	#2: Description: QCI2 E-RAB.
	Suffix 3GPP: QCI2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#3: Description: QCI3 E-RAB.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#4: Description: QCI4 E-RAB.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#5: Description: QCI6 E-RAB.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#6: Description: QCI7 E-RAB.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#7: Description: QCI8 E-RAB.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD

Counter Information	Counter Value/Description
	#8: Description: QCI9 E-RAB.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.DLRlcBurstSize
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	KiBytes
Notes	-

12127 - Downlink RLC PDU size in last TTI

This counter provides the number of KiBytes (1024 Bytes) sent over RLC interface in the last TTI of a data burst in the downlink direction. The measurement is made at PDU level. It does NOT consider RLC retransmissions or HARQ retransmissions.

Counter Information	Counter Value/Description
Counter Code	12127
Counter Type	CUMULATE
Applicability	FDD
Triggering (Event)	This counter is triggered when the last RLC PDU in the RLC new data buffer is provided to MAC layer. Detailed counting algorithm is: 1. Trigger: At the begining of the granularity period Actions: for each type of service s / QCI q, re-set LastTTISize(s)=0, re-set LastTTISize(q)=0 2. Trigger: RLC entity sends a RLC PDU data to the MAC entity resulting an empty RLC new data buffer for E-RAB b Actions: Say E-RAB b belongs to type of service s / QCI q. LastTTISize(s)+='RLC PDU data size' LastTTISize(q)+='RLC PDU data size'.
Subcounters	Type of service.
	#0: Description: Guaranteed Bit Rate E-RAB excluding VoIP (QCI1).
	Suffix 3GPP: OtherGBR
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#1: Description: Non-GBR E-RAB.
	Suffix 3GPP: NonGBR
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#2: Description: QCI2 E-RAB.
	Suffix 3GPP: QCI2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD

Counter Information	Counter Value/Description
	#3: Description: QCI3 E-RAB.
	Suffix 3GPP: QCI3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#4: Description: QCI4 E-RAB.
	Suffix 3GPP: QCI4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#5: Description: QCI6 E-RAB.
	Suffix 3GPP: QCI6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#6: Description: QCI7 E-RAB.
	Suffix 3GPP: QCI7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#7: Description: QCI8 E-RAB.
	Suffix 3GPP: QCI8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
	#8: Description: QCI9 E-RAB.
	Suffix 3GPP: QCI9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	Applicability: FDD
Subfamily	RLC PDU
Report group	Mandatory
3GPP name	VS.DLRlcPduSizeInLastTTI

Counter Information	Counter Value/Description
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	KiBytes
Notes	-

14 M1 Traffic

Overview

Purpose

The following counters are generated to get information on M1 Traffic:

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14301 - M1 GTP payload Kbytes received

This counter provides, for each MBMS bearer service, the volume of M1 GTP payload received by eNodeB (expressed in KiBytes (1024 Bytes)). This counter does not include in the count the GTP header.

Counter Information	Counter Value/Description
Counter Code	14301
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered at GTP SDU reception on M1 bearer.
Subcounters	Not defined
Subfamily	M1 Traffic
Report group	MBMS
3GPP name	VS.M1GtpPayloadKbytesReceived
Object Class	MbmsBearerService
Range	0 to $2^{32}-1$
Unit	kBytes
Notes	From LA5.0 this counter applies for FDD and TDD.

14302 - MBMS SYNC sequences received too early

This counter provides the number of eMBMS sequences of PDU received too early at SYNC layer.

Counter Information	Counter Value/Description
Counter Code	14302
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered at reception of the first packet of each sequence received. The counter is incremented if the scheduling time is too far in the future. Such packet will be discarded to prevent from buffer overflow.
Subcounters	Not defined
Subfamily	L2 Traffic - SYNC sequence
Report group	MBMS
3GPP name	VS.M1SyncSequencesReceivedTooEarly
Object Class	MbmsBearerService
Range	0 to 2^{32}-1
Unit	Sequence
Notes	From LA5.0 this counter applies for FDD and TDD.

14303 - MBMS SYNC sequences received too late

This counter provides the number of eMBMS sequences of PDU received too late at SYNC layer.

Counter Information	Counter Value/Description
Counter Code	14303
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered at the reception of the last packet of each sequence (PDU 0 or 3) and if the scheduling time is in the past or if there is not enough time for the scheduler to process the packet.
Subcounters	Not defined
Subfamily	L2 Traffic - SYNC sequence
Report group	MBMS
3GPP name	VS.M1SyncSequencesReceivedTooLate
Object Class	MbmsBearerService
Range	0 to 2^{32}-1
Unit	Sequence
Notes	From LA5.0 this counter applies for FDD and TDD.

14304 - MBMS SYNC sequences delay

This counter provides the difference between the time given in the timestamp and the reception time for the first packet of each sequence. The modem will calculate this difference for each first packet and will return back the results. So this counter of type value allows giving the Min, the Max, the cumulative value and the Nb of events (the number of MBMS sequences received).

Counter Information	Counter Value/Description
Counter Code	14304
Counter Type	VALUE
Triggering (Event)	This counter is triggered at the reception of the first SYNC PDUs of each new sequence for the eMBMS services.
Subcounters	Not defined
Subfamily	L2 Traffic - SYNC sequence
Report group	MBMS
3GPP name	VS.M1SyncSequencesDelay
Object Class	MbmsBearerService
Range	0 to 2^{32}-1
Unit	ms
Notes	From LA5.0 this counter applies for FDD and TDD.

14305 - MBMS user packets expected by SYNC layer

This counter provides the number of eMBMS packet expected by the modem board in downlink direction related to traffic in the cell and for the eMBMS service.

Counter Information	Counter Value/Description
Counter Code	14305
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered at the reception of the last packet of a sequence (Type0 or Type3) for the eMBMS service. Inside this packet, the number of expected packets is given by the field Packet Number.
Subcounters	Not defined
Subfamily	L2 Traffic - SYNC PDU
Report group	MBMS
3GPP name	VS.MbmsUserPacketsExpectedBySyncLayer
Object Class	MbmsBearerService
Range	0 to $2^{32}-1$
Unit	Packet
Notes	From LA5.0 this counter applies for FDD and TDD.

14306 - MBMS user packets received by SYNC layer

This counter gives the number of eMBMS packets received by the SYNC layer.

Counter Information	Counter Value/Description
Counter Code	14306
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when SYNC layer receives an eMBMS packet.
Subcounters	Not defined
Subfamily	L2 Traffic - SYNC PDU
Report group	MBMS
3GPP name	VS.MbmsUserPacketsReceivedBySyncLayer
Object Class	MbmsBearerService
Range	0 to 2^{32}-1
Unit	Packet
Notes	From LA5.0 this counter applies for FDD and TDD.

14307 - MBMS user packets received by RLC

This counter gives the number of eMBMS packets received by the RLC layer.

Counter Information	Counter Value/Description
Counter Code	14307
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RLC layer receive an eMBMS packet.
Subcounters	Not defined
Subfamily	L2 Traffic - SYNC PDU
Report group	MBMS
3GPP name	VS.MbmsUserPacketsReceivedByRlc
Object Class	MbmsBearerService
Range	0 to $2^{32}-1$
Unit	Packet
Notes	From LA5.0 this counter applies for FDD and TDD.

14308 - MBMS user packets dropped by RLC upon overflow

This counter gives the number of packet not scheduled due to the buffer overflow.

Counter Information	Counter Value/Description
Counter Code	14308
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when at the end of each MSP (MCCH Scheduling Period) there is some packets into the RLC buffer.
Subcounters	Not defined
Subfamily	L2 Traffic - SYNC PDU
Report group	MBMS
3GPP name	VS.MbmsUserPacketsDroppedByRlcUponOverflow
Object Class	MbmsBearerService
Range	0 to $2^{32}-1$
Unit	Packet
Notes	From LA5.0 this counter applies for FDD and TDD.

15   Mobility

Overview

Purpose

The following counters are generated to get information on Mobility:

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12701 - Reported cell not selected

This counter provides the number of times a UE has reported a Measurement report for mobility, but no cell was selected by the eNodeB. The screening corresponding to the reason for not selecting the strongest cell is pegged even if the Measurement report contains several cells discarded by other reasons.

Counter Information	Counter Value/Description
Counter Code	12701
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a Measurement Report is received. This report includes measId configured for mobility trigger. No cell can be selected for mobility procedure.
Subcounters	Reason for not selecting the cells. *#0: Description:* Mobility is not enabled in the current eNodeB according to configuration parameter or not allowed to the known neighbor cell, due to blacklisted cell or HO restriction list. *Suffix 3GPP:* MobilityNotEnabled *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* The Physical Cell Identity reported by the UE does not match any Cell Global Identity known by the eNodeB. *Suffix 3GPP:* UnknownPCI *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Cell reported by the UE is disabled (locked, barred or failed).This applies in case the reported cell is local to the eNodeB. This occurs only in crossing events case. *Suffix 3GPP:* CellDisabled *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* VoIP not allowed, cell loaded,... *Suffix 3GPP:* Other *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	HO Cell Selection
Report group	Mandatory

Counter Information	Counter Value/Description
3GPP name	VS.ReportedCellNotSelected
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

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12702 - Incoming intra-eNodeB handover attempt

This counter provides the number of times an intra-eNodeB handover procedure has been attempted towards the cell.

Counter Information	Counter Value/Description
Counter Code	12702
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a cell is selected by the eNodeB application as the target of a handover procedure, with the source cell hosted by the same eNodeB equipment.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IncomingIntraENodeBHOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged only when the cell is received as a potential target for Handover through RRC measurement report received from the UE, and when the cell is eligible (that is, in a unlocked or available state)Information available in LA1.0 through UPOS traces.

12703 - Incoming intra-eNodeB handover success

This counter provides the number of times an intra-eNodeB handover procedure has been successfully performed towards the target cell.

Counter Information	Counter Value/Description
Counter Code	12703
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a RrcReconfigurationComplete message is received from the UE, indicating attachment to the target cell.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IncomingIntraENodeBHOSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. In case of Intra-eNodeB Handover partial failure, the Intra-eNodeB Handover procedure is considered as successful, this counter is pegged.

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12704 - Total intra-eNodeB handover failure

This counter provides the number of times an intra-eNodeB handover procedure towards the target cell has been failed.

Counter Information	Counter Value/Description
Counter Code	12704
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IntraENodeBHOFailureSum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. Currently this counter is not pegged for non-eligible cells. A barred cell is considered as non-eligible cell. In case of Intra-eNodeB Handover partial failure, the Intra-eNodeB Handover procedure is considered as successful, this counter is not pegged.

12705 - Intra-eNodeB handover failure

This counter provides the number of times an intra-eNodeB handover procedure towards the cell has been failed for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12705
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: CAC failure for all E-RABs. The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: CACFailure
	Triggering Event: Handover procedure failed due to a lack of resource in the target cell.
	Report group: Mandatory
	#1: Description: Internal eNodeB failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: Handover procedure failed due to internal eNodeB failure.
	Report group: MobilityFailure
	#2: Description: Timeout (no answer from the UE).
	Suffix 3GPP: Timeout
	Triggering Event: Expiration of the timer supervising the reception of RrcReconfigurationComplete message from the UE.
	Report group: MobilityFailure
	#3: Description: RRC connection re-establishment on the source cell.
	Suffix 3GPP: RRCConnectionReestabOnSourceCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the source cell, as an answer to RrcReconfiguration sent.
	Report group: MobilityFailure

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Counter Information	Counter Value/Description
	#4: Description: RRC connection re-establishment on the target cell.
	Suffix 3GPP: RRCConnectionReestabOnTargetCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the target cell as an answer to RrcReconfiguration sent.
	Report group: MobilityFailure
	#5: Description: Integrity verification is failed on an UL RRC message received on SRB1 (RRC Connection Reconfiguration Complete) or SRB2.
	Suffix 3GPP: IntegrityFailure
	Triggering Event: Detection of integrity failure on a received UL RRC message.
	Report group: MobilityFailure
	#6: Description: RRC connection re-establishment on other cell, neither Source nor Target.
	Suffix 3GPP: RRCConnectionReestabOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in a cell neither Source nor Target as an answer to RrcReconfiguration sent.
	Report group: MobilityFailure
	#7: Description: CAC failure for all E-RABs during inter-frequency handover. The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: InterFreqCACFailure
	Triggering Event: Handover procedure failed due to a lack of resource in the target cell.
	Report group: Mandatory
	#8: Description: Internal eNodeB failure during inter-frequency handover.
	Suffix 3GPP: InterFreqInternalFailure
	Triggering Event: Handover procedure failed due to internal eNodeB failure.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#9: Description: Timeout (no answer from the UE) during inter-frequency handover.
	Suffix 3GPP: InterFreqTimeout
	Triggering Event: Expiration of the timer supervising the reception of RrcReconfigurationComplete message from the UE.
	Report group: MobilityFailure
	#10: Description: RRC connection re-establishment on the target cell during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestabOnTargetCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the target cell as an answer to RrcReconfiguration sent.
	Report group: MobilityFailure
	#11: Description: Integrity verification is failed on an UL RRC message received on SRB1 (RRC Connection Reconfiguration Complete) or SRB2 during inter-frequency handover.
	Suffix 3GPP: InterFreqIntegrityFailure
	Triggering Event: Detection of integrity failure on a received UL RRC message.
	Report group: MobilityFailure
	#12: Description: RRC connection re-establishment on other cell, neither Source nor Target during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestabOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in a cell neither Source nor Target as an answer to RrcReconfiguration sent.
	Report group: MobilityFailure
	#13: Description: RRC connection re-establishment on the source cell during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestabOnSourceCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the source cell, as an answer to RrcReconfiguration sent.
	Report group: MobilityFailure

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Counter Information	Counter Value/Description
	#14: Description: Failure due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: Handover procedure failed due to overload condition failure, for both intra-frequency and inter-frequency HO cases.
	Report group: MobilityFailure
	#15: Description: Radio link failure indication received from intra-frequency cell.
	Suffix 3GPP: IntraFreqRLFIndicationReceived
	Triggering Event: Handover procedure failed due to radio link failure indication received.
	Report group: MobilityFailure
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IntraENodeBHOFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. If there is an S1 fault, calls are released, for example see counter 12508, and therefore no intra-eNodeB HO is attempted. In case of Intra-eNodeB Handover partial failure, the Intra-eNodeB handover procedure is considered as successful, this counter is not pegged.

12706 - Outgoing inter-eNodeB X2 handover attempt

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12706
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the HANDOVER REQUEST message is sent to the target eNodeB.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged only when the cell is received as a potential target for Handover through RRC measurement received from the UE, and when the cell is eligible that is, X2 link to the hosting eNodeB is available.Information available in LA1.0 through UPOS traces. May be pegged by FRS 103892.

12707 - Outgoing inter-eNodeB X2 handover success

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12707
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP UE CONTEXT RELEASE message is received from the target eNodeB.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. In case of Outgoing Inter-eNodeB X2 Handover resource allocation partial failure, the Outgoing Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is pegged if the handover execution is successful. May be pegged by FRS 103892. In case RRC Reestablishment success on the target eNodeB, the incoming HO is failed, but the outgoing HO is considered as successful, as the target eNodeB sends a X2AP UE Context release to the source eNodeB.

12708 - Total outgoing inter-eNodeB X2 handover failure

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure has been failed from the cell.

Counter Information	Counter Value/Description
Counter Code	12708
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes X2 handover impossible to perform.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. In case of Outgoing Inter-eNodeB X2 Handover resource allocation partial failure, the Outgoing Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is not pegged at this stage. May be pegged by FRS 103892.

12709 - Outgoing inter-eNodeB X2 handover failure

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure has been failed from the cell for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12709
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause. *#0: Description:* Handover preparation failure. *Suffix 3GPP:* HOPreparationFailureOther *Triggering Event:* X2AP HANDOVER PREPARATION FAILURE received from the target eNodeB. *Report group:* MobilityFailure *#2: Description:* X2Preparation timeout. *Suffix 3GPP:* X2PreparationTimeout *Triggering Event:* Expiration of X2Preparation timer, supervising Handover preparation procedure (that is, no answer from the target eNodeB). *Report group:* MobilityFailure *#4: Description:* RRC connection re-establishment On the source cell. *Suffix 3GPP:* RRCConnectionReestablishmentOnSourceCell *Triggering Event:* Reception of RrcConnectionReestablishmentRequest in the source cell. *Report group:* MobilityFailure *#5: Description:* X2Release timeout. *Suffix 3GPP:* X2ReleaseTimeout *Triggering Event:* Expiration of X2Release timer, supervising Handover execution procedure (that is, no X2AP RELEASE RESOURCE answer from the target eNodeB). *Report group:* MobilityFailure

Counter Information	Counter Value/Description
	#6: Description: RRC connection re-establishment on another cell of the source eNodeB.
	Suffix 3GPP: RRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell.
	Report group: MobilityFailure
	#7: Description: Handover preparation failure during inter-frequency handover.
	Suffix 3GPP: InterFreqHOPreparationFailureOther
	Triggering Event: X2AP HANDOVER PREPARATION FAILURE received from the target eNodeB.
	Report group: MobilityFailure
	#8: Description: X2Preparation timeout during inter-frequency handover.
	Suffix 3GPP: InterFreqX2PreparationTimeout
	Triggering Event: Expiration of X2Preparation timer, supervising Handover preparation procedure (that is, no answer from the target eNodeB).
	Report group: MobilityFailure
	#10: Description: RRC connection re-establishment On the source cell during inter-frequency handover during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestablishmentOnSourceCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the source cell.
	Report group: MobilityFailure
	#11: Description: X2Release timeout during inter-frequency handover.
	Suffix 3GPP: InterFreqX2ReleaseTimeout
	Triggering Event: Expiration of X2Release timer, supervising Handover execution procedure (that is, no X2AP RELEASE RESOURCE answer from the target eNodeB).
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#12: Description: RRC connection re-establishment on another cell of the source eNodeB during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell.
	Report group: MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. If an inter-eNodeB handover failure is due to S1 faults or cell barring at the Target eNodeB, the Target pegs handover failure against a specific screening (see counter 12713). As such this counter at Source eNodeB currently does not screen on the cause value in the Handover Preparation Failure message received. In case of Outgoing Inter-eNodeB X2 Handover resource allocation partial failure, the Outgoing Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is not pegged at this stage. May be pegged by FRS 103892.

12710 - Incoming inter-eNodeB X2 handover attempt

This counter provides the number of times an incoming inter-eNodeB X2 handover procedure has been attempted to the cell.

Counter Information	Counter Value/Description
Counter Code	12710
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP HANDOVER REQUEST message is received from the source eNodeB.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. May be pegged by FRS 103892.

12711 - Incoming inter-eNodeB X2 handover success

This counter provides the number of times that an incoming inter-eNodeB X2 handover procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12711
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP UE CONTEXT RELEASE message is sent to the source eNodeB and when the RrcConnectionReestablishmentRequest message is not received in the target cell.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOSuccess
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB X2 Handover partial failure, the Incoming Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is pegged if the handover execution is successful. May be pegged by FRS 103892.

12712 - Total incoming inter-eNodeB X2 handover failure

This counter provides the number of times that an incoming inter-eNodeB X2 handover procedure has been failed to the cell.

Counter Information	Counter Value/Description
Counter Code	12712
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform .
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. In case of Incoming Inter-eNodeB X2 handover resource allocation partial failure, the Incoming Inter-eNodeB X2 handover preparation procedure is considered as successful, this counter is not pegged at this stage. May be pegged by FRS 103892.

12713 - Incoming inter-eNodeB X2 handover failure

This counter provides the number of times that an incoming inter-eNodeB X2 handover procedure has been failed to the cell for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12713
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: Mobility cannot be performed by Target eNodeB due to OAM intervention including: mobility is not enabled in the target cell. Mobility is not Allowed (under ActivationService), Incoming handover to a cell reserved for operator use (When a cell is reserved for operator use, only RRC establishment requests using cause 'highPriorityAccess' are allowed) and barring the cell.
	Suffix 3GPP: InterventionOAM
	Triggering Event: Reception of HANDOVER REQUEST message from the source eNodeB and a problem in 'Description' is true.
	Report group: MobilityFailure
	#1: Description: CAC failure for all E-RABs. The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: CACFailure
	Triggering Event: Handover request from the source eNodeB cannot be answered because a lack of resources.
	Report group: Mandatory
	#2: Description: Internal failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: Handover request from the source eNodeB cannot be answered due to eNodeB internal failure.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#3: Description: InterENodeBHO timeout.
	Suffix 3GPP: InterEnbHOTimeout
	Triggering Event: Expiration of InterEnbHo timer, supervising Handover execution procedure. This means: If PDCP SN status preservation does not apply for any E-RAB, no RrcConnectionRe-configurationComplete message received from the UE. If PDCP SN status preservation does apply for at least one E-RAB, no reception of X2 SN STATUS TRANFER from the source eNodeB or RrcConnectionReconfigurationComplete from the UE.
	Report group: MobilityFailure
	#4: Description: Path switch failure.
	Suffix 3GPP: PathSwitchFailure
	Triggering Event: Reception of PATH SWITCH REQUEST FAILURE S1AP message from the MME.
	Report group: MobilityFailure
	#5: Description: S1PathSwitch timeout.
	Suffix 3GPP: S1PathSwitchTimeout
	Triggering Event: Expiration of S1PathSwitch timer, supervising User Plane path switch procedure (that is, no answer to path switch request received from the MME).
	Report group: MobilityFailure
	#6: Description: RRC connection re-establishment on target cell (*).
	Suffix 3GPP: RRCConnectionReestablishmentOnTargetCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the target cell.
	Report group: MobilityFailure
	#7: Description: All MMEs accesses are disabled.
	Suffix 3GPP: S1FaultExternalFailure
	Triggering Event: Sending of HandoverPreparationFailure to Source eNodeB due to the problem in 'Description': The CauseTransport value = 'transport-resource-unavailable'.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#8: Description: Integrity verification is failed on an UL RRC message received on SRB1 (RRC Connection Reconfiguration Complete) or SRB2.
	Suffix 3GPP: IntegrityFailure
	Triggering Event: Detection of integrity failure on a received UL RRC message.
	Report group: MobilityFailure
	#9: Description: Security algorithm cannot be selected because none can match UE security capabilities.
	Suffix 3GPP: SecurityAlgoNotCompatible
	Triggering Event: Reception of X2-AP HANDOVER REQUEST message from the source eNodeB when security algorithms supported by eNodeB are not compatible with security algorithms supported by UE.
	Report group: MobilityFailure
	#10: Description: RRC connection re-establishment on another cell of the target eNodeB (*).
	Suffix 3GPP: RRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell of the target eNodeB.
	Report group: MobilityFailure
	#11: Description: The operational state of the cell is unavailable (due to cell outage or due to cell lock).
	Suffix 3GPP: CellNotAvailable
	Triggering Event: Handover procedure failed due to problem in description.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#12: Description: Mobility cannot be performed by Target eNodeB due to OAM intervention during inter-frequency handover, including: mobility is not enabled in the target cell. Mobility is not Allowed (under ActivationService), Incoming handover to a cell reserved for operator use (When a cell is reserved for operator use, only RRC establishment requests using cause 'highPriorityAccess' are allowed) and barring the cell.
	Suffix 3GPP: InterFreqInterventionOAM
	Triggering Event: Reception of HANDOVER REQUEST message from the source eNodeB and a problem in 'Description' is true.
	Report group: MobilityFailure
	#13: Description: CAC failure for all E-RABs during inter-frequency handover. The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: InterFreqCACFailure
	Triggering Event: Handover request from the source eNodeB cannot be answered because a lack of resources.
	Report group: Mandatory
	#14: Description: Internal failure during inter-frequency handover.
	Suffix 3GPP: InterFreqInternalFailure
	Triggering Event: Handover request from the source eNodeB cannot be answered due to eNodeB internal failure.
	Report group: MobilityFailure
	#15: Description: InterENodeBHO timeout during inter-frequency handover.
	Suffix 3GPP: InterFreqInterEnbHOTimeout
	Triggering Event: Expiration of InterEnbHo timer, supervising Handover execution procedure. This means: If PDCP SN status preservation does not apply for any E-RAB, no RrcConnectionRe-configurationComplete message received from the UE. If PDCP SN status preservation does apply for at least one E-RAB, no reception of X2 SN STATUS TRANFER from the source eNodeB or RrcConnectionReconfigurationComplete from the UE.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#16: Description: Path switch failure during inter-frequency handover.
	Suffix 3GPP: InterFreqPathSwitchFailure
	Triggering Event: Reception of PATH SWITCH REQUEST FAILURE S1AP message from the MME.
	Report group: MobilityFailure
	#17: Description: S1PathSwitch timeout during inter-frequency handover.
	Suffix 3GPP: InterFreqS1PathSwitchTimeout
	Triggering Event: Expiration of S1PathSwitch timer, supervising User Plane path switch procedure (that is, no answer to path switch request received from the MME).
	Report group: MobilityFailure
	#18: Description: RRC connection re-establishment on target cell (*) during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionRees-tablishmentOnTargetCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the target cell.
	Report group: MobilityFailure
	#19: Description: All MMEs accesses are disabled during inter-frequency handover.
	Suffix 3GPP: InterFreqS1FaultExternalFailure
	Triggering Event: Sending of HandoverPreparationFailure to Source eNodeB due to the problem in 'Description': The CauseTransport value = 'transport-resource-unavailable'.
	Report group: MobilityFailure
	#20: Description: Integrity verification is failed on an UL RRC message received on SRB1 (RRC Connection Reconfiguration Complete) or SRB2 during inter-frequency handover.
	Suffix 3GPP: InterFreqIntegrityFailure
	Triggering Event: Detection of integrity failure on a received UL RRC message.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#21: Description: Security algorithm cannot be selected because none can match UE security capabilities during inter-frequency handover.
	Suffix 3GPP: InterFreqSecurityAlgoNotCompatible
	Triggering Event: Reception of X2-AP HANDOVER REQUEST message from the source eNodeB when security algorithms supported by eNodeB are not compatible with security algorithms supported by UE.
	Report group: MobilityFailure
	#22: Description: RRC connection re-establishment on another cell of the target eNodeB (*) during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionRees-tablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell of the target eNodeB.
	Report group: MobilityFailure
	#23: Description: The operational state of the cell is unavailable (due to cell outage or due to cell lock) during inter-frequency handover.
	Suffix 3GPP: InterFreqCellNotAvailable
	Triggering Event: Handover procedure failed due to problem in description.
	Report group: MobilityFailure
	#24: Description: E-RAB Context allocation failure.
	Suffix 3GPP: ERABContextAllocationFailure
	Triggering Event: X2AP HANDOVER PREPARATION FAILURE message sending due to E-RAB Context allocation failure.
	Report group: MobilityFailure
	#25: Description: Failure due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: X2AP HANDOVER PREPARATION FAILURE message sending due to overload condition.
	Report group: MobilityFailure

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Counter Information	Counter Value/Description
	#26: Description: Failure due to UE inactivity and overload condition (exclusive with screening OverloadConditionFailure). *Suffix 3GPP:* InactivityOverloadFailure *Triggering Event:* X2AP HANDOVER PREPARATION FAILURE message sending due to UE inactivity and overload condition. *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOFailure
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	(*) Even if re-establishment is successfully performed in the target cell, handover procedure is considered as failed. As far as the KPI for eNodeB reliability/ availability is concerned, Screening 0 is not ALU contributable and Screening 7 may not be ALU contributable. If one or more S1 link is locked and other S1 links experience problems described in Screening 7 resulting in a loss of S1 service, the pegging is done against Screening 0, regardless of the order of S1 events. Information available in LA1.0 through UPOS traces. When triggered for radio reason in case of Incoming Inter-eNodeB X2 Handover partial failure, the Incoming Inter-eNodeB X2 Handover procedure is considered as successful, this counter is not pegged. Otherwise in case of off-loading, the partial failure induces a X2 Handover cancellation. May be pegged by FRS 103892.

12714 - Non-optimized redirection to HRPD via event A2

This counter provides the number of non-optimized redirections to HRPD technology that are performed due to a bad signal measured by the UE in the serving cell.

Counter Information	Counter Value/Description
Counter Code	12714
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RrcConnectionRelease message is sent to the UE. This message contains redirectedCarrierInfo IE populated with HRPD info provisioned on the cell, and follows the Event A2 measurement received. This indicates that the signal in the serving cell is worse than the threshold level.
Subcounters	Not defined
Subfamily	Redirection
Report group	HRPDOr1xRTT
3GPP name	VS.NonOptimizedRedirectionToHRPDViaEventA2
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12715 - Redirection to UTRA FDD

This counter provides the number of times that the procedure for a basic (enhanced redirection is not taken into account) inter-RAT redirection to UTRA-FDD is required.

Counter Information	Counter Value/Description
Counter Code	12715
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an event is received to process an inter-RAT redirection to UTRA-FDD.
Subcounters	Family of event that may trigger inter-RAT redirection to UTRA-FDD. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) when failing to perform a PS Handover to UTRAN and no CS fallback procedure is on-going. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2EcN0 *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0) when failing to perform a PS Handover to UTRAN and no CS fallback procedure is on-going. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#2: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) when failing to perform a PS Handover to UTRAN and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#3: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2EcN0
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) when failing to perform a PS Handover to UTRAN and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#4: Description: Event A2 (LTE Serving becomes lower than threshold1_RSRP).
	Suffix 3GPP: BlindViaEventA2AndThreshold1RSRP
	Triggering Event: Upon receipt of event A2 (LTE Serving becomes lower than threshold1_RSRP) and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#5: Description: Event A2 (LTE Serving becomes lower than threshold1_RSRQ).
	Suffix 3GPP: BlindViaEventA2AndThreshold1RSRQ
	Triggering Event: Upon receipt of event A2 (LTE Serving becomes lower than threshold1_RSRQ) and no CS fallback procedure is on-going.
	Report group: GeranOrUtran

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Counter Information	Counter Value/Description
	#6: Description: Both regular and emergency CS Fallback triggered.
	Suffix 3GPP: CsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to UTRAN. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of UTRAN as the target technology for CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the redirection to UTRAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran
	#7: Description: Emergency CS fallback Triggered.
	Suffix 3GPP: EmergencyCsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to UTRAN for emergency call. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of UTRAN as the target technology for emergency CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the redirection to UTRAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran
	#8: Description: Off-load triggered upon eNodeB congestion detection. The redirection may be either measurement based using B1 (or B2 as fallback) or in blind mode.
	Suffix 3GPP: OffLoadTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to UTRAN for off-load reason to solve eNodeB congestion.
	Report group: GeranOrUtran
Subfamily	Redirection
Report group	Mandatory
3GPP name	VS.RedirectionToUtraFdd

Counter Information	Counter Value/Description
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	This counter applies only for basic redirections. Enhanced redirections peg counter 12858. Screenings 0 to 3 shall not be pegged when redirection is triggered by off-load decision (FRS 103892).

12716 - Redirection to GERAN

This counter provides the number of times that the procedure for a basic (enhanced redirection is not taken into account) inter-RAT redirection to GERAN is required.

Counter Information	Counter Value/Description
Counter Code	12716
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an event has been received for an inter-RAT redirection to GERAN.
Subcounters	Family of event that may trigger inter-RAT redirection to GERAN. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT GERAN neighbour becomes higher than threshold2_GERAN). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2GERAN *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT GERAN neighbour becomes higher than threshold2_GERAN) and no CS fallback procedure is on-going. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT GERAN neighbour becomes higher than threshold2_GERAN). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRQThreshold2GERAN *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT GERAN neighbour becomes higher than threshold2_ GERAN) and no CS fallback procedure is on-going. *Report group:* GeranOrUtran *#2: Description:* Event A2 (LTE Serving becomes lower than threshold1_RSRP). *Suffix 3GPP:* BlindViaEventA2AndThreshold1RSRP *Triggering Event:* Upon receipt of event A2 (LTE Serving becomes lower than threshold1_RSRP) and no CS fallback procedure is on-going. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#3: Description: Event A2 (LTE Serving becomes lower than threshold1_RSRQ).
	Suffix 3GPP: BlindViaEventA2AndThreshold1RSRQ
	Triggering Event: Upon receipt of event A2 (LTE Serving becomes lower than threshold1_RSRQ) and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#4: Description: Both regular and emergency CS Fallback triggered.
	Suffix 3GPP: CsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to GERAN. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of GERAN as the target technology for CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the redirection to GERAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran
	#5: Description: Emergency CS Fallback Triggered.
	Suffix 3GPP: EmergencyCsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to GERAN for emergency call. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of GERAN as the target technology for emergency CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the redirection to GERAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran

Counter Information	Counter Value/Description
	#6: Description: Off-load triggered upon eNodeB congestion detection. The redirection may be either measurement based using B1 (or B2 as fallback) or in blind mode.
	Suffix 3GPP: OffLoadTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to GERAN for off-load reason to solve eNodeB congestion.
	Report group: GeranOrUtran
Subfamily	Redirection
Report group	Mandatory
3GPP name	VS.RedirectionToGeran
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Screening 0 to 3 shall not be pegged when redirection is triggered by off-load decision.

12717 - Intra-cell handover attempt

This counter provides the number of times an intra-cell handover procedure has been attempted towards the cell.

Counter Information	Counter Value/Description
Counter Code	12717
Counter Type	CUMULATE
Triggering (Event)	This counter is pegged when the eNodeB application decides to trigger an intra-cell handover.
Subcounters	Trigger for intra-cell handover.
	#0: Description: Intra-cell handover due to rekeying request from MME.
	Suffix 3GPP: Rekeying
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Intra-cell handover for KeNodeB refresh purpose.
	Suffix 3GPP: KeNBRefresh
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Intra-cell handover triggered with TTI bundling activation purpose.
	Suffix 3GPP: TTIBundlingActivation
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Intra-cell handover triggered with TTI bundling de-activation purpose.
	Suffix 3GPP: TTIBundlingDeactivation
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Intra-cell handover triggered due to RRC Reconfiguration for PUCCH.
	Suffix 3GPP: RRCReconfigurationForPUCCH
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	HO Intra-Cell

Counter Information	Counter Value/Description
Report group	Mandatory
3GPP name	VS.IntraCellHOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12718 - Intra-cell handover success

This counter provides the number of times an intra-cell handover procedure has been successfully performed towards the cell.

Counter Information	Counter Value/Description
Counter Code	12718
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RrcReconfigurationComplete message is received from the UE, which indicates attachment to the cell.
Subcounters	Trigger for intra-cell handover.
	#0: Description: Intra-cell handover due to rekeying request from MME.
	Suffix 3GPP: Rekeying
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Intra-cell handover for KeNodeB refresh purpose.
	Suffix 3GPP: KeNBRefresh
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Intra-cell handover triggered with TTI bundling activation purpose.
	Suffix 3GPP: TTIBundlingActivation
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Intra-cell handover triggered with TTI bundling de-activation purpose.
	Suffix 3GPP: TTIBundlingDeactivation
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Intra-cell handover triggered due to RRC Reconfiguration for PUCCH.
	Suffix 3GPP: RRCReconfigurationForPUCCH
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

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Counter Information	Counter Value/Description
Subfamily	HO Intra-Cell
Report group	Mandatory
3GPP name	VS.IntraCellHOSuccess
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT

12719 - Intra-cell handover re-keying failure

This counter provides the number of times an intra-cell handover re-keying procedure towards the cell has been failed.

Counter Information	Counter Value/Description
Counter Code	12719
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP UE Context Modification Failure message is sent.
Subcounters	Failure cause.
	#0: Description: Intra-cell handover rekeying procedure failed due to an eNodeB internal failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#1: Description: No answer from the UE.
	Suffix 3GPP: Timeout
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#2: Description: RRCConnectionReestablishment rejected due to UE-Identity verification failure.
	Suffix 3GPP: RRCConnectionReestablishment
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#3: Description: Integrity Protection failure detected.
	Suffix 3GPP: IntegrityFailure
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#4: Description: No security algorithm selected.
	Suffix 3GPP: NoSecurityAlgorithm
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure

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Counter Information	Counter Value/Description
	#5: Description: Intra-cell handover rekeying procedure failed due to an eNodeB CAC failure.
	Suffix 3GPP: CACFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	HO Intra-Cell
Report group	Mandatory
3GPP name	VS.IntraCellHORekeyingFailure
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12720 - Outgoing inter-eNodeB S1 handover attempt

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12720
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1 HANDOVER REQUIRED message is sent to the MME.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged only when the target cell is received as a potential target for Handover through RRC measurement report received from the UE, and when the cell is a known neighbour, that is, the eNodeB has its ECGI and TAC. May be pegged by FRS 103892.

12721 - Outgoing inter-eNodeB S1 handover success

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12721
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 UE CONTEXT RELEASE COMMAND message with cause as Successful handover is received from the MME.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	The S1 UE CONTEXT RELEASE COMMAND should reach the source eNodeB before TS1RELOCoverall expiry.In case of Outgoing Inter-eNodeB S1 handover resource allocation partial failure, the outgoing Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is pegged if the handover execution is successful. May be pegged by FRS 103892. In case RRC Reestablishment success on the target eNodeB, the incoming HO is failed, but the outgoing HO is considered as successful, as the target eNodeB sends a Handover notify to the MME and the MME sends a S1 UE CONTEXT RELEASE COMMAND to the source eNodeB.

12722 - Total outgoing inter-eNodeB S1 handover failure

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure has been failed from the cell.

Counter Information	Counter Value/Description
Counter Code	12722
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of outgoing Inter-eNodeB S1 handover resource allocation partial failure, the outgoing Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is not pegged if the handover execution is successful. May be pegged by FRS 103892.

12723 - Outgoing inter-eNodeB S1 handover failure

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure has been failed from the cell for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12723
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause. *#0: Description:* Handover preparation failure. *Suffix 3GPP:* HOPreparationFailure *Triggering Event:* S1AP HANDOVER PREPARATION FAILURE received from the MME. *Report group:* MobilityFailure *#1: Description:* Expiration of S1RelocPrepForS1Handover timer, supervising the S1 Handover preparation procedure (that is, no answer from the MME). *Suffix 3GPP:* TS1RelocPrepForS1HOTimeout *Triggering Event:* TS1RelocPrepForS1Handover timeout. *Report group:* MobilityFailure *#3: Description:* RRC connection re-establishment on the source cell. *Suffix 3GPP:* RRCConnectionReestablishmentOnSourceCell *Triggering Event:* Reception of RrcConnectionReestablishmentRequest in the source cell. *Report group:* MobilityFailure *#4: Description:* TS1RelocOverallForS1Handover timeout. *Suffix 3GPP:* TS1RelocOverallForS1HOTimeout *Triggering Event:* Expiration of TS1RelocOverallForS1Handover timer, supervising Handover execution procedure (that is, no S1AP UE CONTEXT RELEASE COMMAND from the MME). *Report group:* MobilityFailure

Counter Information	Counter Value/Description
	#5: Description: RRC connection re-establishment on another cell of the source eNodeB.
	Suffix 3GPP: RRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell.
	Report group: MobilityFailure
	#6: Description: Handover preparation failure during inter-frequency handover.
	Suffix 3GPP: InterFreqHOPreparationFailure
	Triggering Event: S1AP HANDOVER PREPARATION FAILURE received from the MME.
	Report group: MobilityFailure
	#7: Description: Expiration of S1RelocPrepForS1Handover timer, supervising the S1 Handover preparation procedure (that is, no answer from the MME) during inter-frequency handover.
	Suffix 3GPP: InterFreqTS1RelocPrepForS1HOTimeout
	Triggering Event: TS1RelocPrepForS1Handover timeout.
	Report group: MobilityFailure
	#9: Description: RRC connection re-establishment on the source cell during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestablishmentOnSourceCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the source cell.
	Report group: MobilityFailure
	#10: Description: TS1RelocOverallForS1Handover timeout during inter-frequency handover.
	Suffix 3GPP: InterFreqTS1RelocOverallForS1HOTimeout
	Triggering Event: Expiration of TS1RelocOverallForS1Handover timer, supervising Handover execution procedure (that is, no S1AP UE CONTEXT RELEASE COMMAND from the MME).
	Report group: MobilityFailure

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Counter Information	Counter Value/Description
	#11: Description: RRC connection re-establishment on another cell of the source eNodeB during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell.
	Report group: MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	3GPP name for timers is TS1RELOCprep and TS1RELOCoverall. If an inter-eNodeB handover failure is due to cell barring on the Target eNodeB, the Target pegs handover failure against a specific screening (see counter 12726). As such this counter at Source eNodeB currently does not screen on the cause value in the Handover Preparation Failure message received. In case of Outgoing Inter-eNodeB S1 handover resource allocation partial failure, the Outgoing Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is not pegged at this stage. May be pegged by FRS 103892.

12724 - Incoming inter-eNodeB S1 handover attempt

This counter provides the number of times that an incoming inter-eNodeB S1 handover procedure has been attempted to the cell.

Counter Information	Counter Value/Description
Counter Code	12724
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1AP HANDOVER REQUEST message is received from the MME.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892.

12725 - Incoming inter-eNodeB S1 handover success

This counter provides the number of times that an incoming inter-eNodeB S1 handover procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12725
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RRC Connection Reconfiguration Complete (HO complete) message is received from UE, and S1AP MME Status Transfer (if there is at least one E-RAB for which SN preservation applies) message is received from the MME.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	When triggered for radio reason, in case of Incoming Inter-eNodeB S1 handover partial failure, the incoming Inter-eNodeB S1 Mobility procedure is considered as successful, this counter is pegged. Otherwise, in case of off-loading triggering, the partial resource allocation induces a handover cancellation: this counter isn't pegged. May be pegged by FRS 103892.

12726 - Total incoming inter-eNodeB S1 handover failure

This counter provides the number of times that an incoming inter-eNodeB S1 handover procedure has been failed to the cell.

Counter Information	Counter Value/Description
Counter Code	12726
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB S1 handover resource allocation partial failure, the incoming Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is not pegged at this stage. May be pegged by FRS 103892.

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12727 - Incoming inter-eNodeB S1 handover failure

This counter provides the number of times that an incoming inter-eNodeB S1 handover procedure has been failed to the cell for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12727
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: Mobility cannot be performed by Target eNodeB due to OAM intervention including: Mobility not enabled in the target cell. Mobility is not Allowed (under ActivationService), barring the cell, S1 mobility is forbidden through configuration parameter in the target eNodeB (S1 handover feature activation flag isS1HoAllowed), Incoming handover to a cell reserved for operator use (When a cell is reserved for operator use, only RRC establishment requests using cause 'highPriorityAccess' are allowed).
	Suffix 3GPP: InterventionOAM
	Triggering Event: Reception of S1AP HANDOVER REQUEST message from the MME and a problem in 'Description' is true.
	Report group: MobilityFailure
	#1: Description: CAC failure for all E-RABs. The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: CACFailure
	Triggering Event: S1AP Handover request from the MME cannot be answered because a lack of resources.
	Report group: Mandatory
	#2: Description: Internal failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: S1 AP Handover request from the MME cannot be answered due to eNodeB internal failure.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#3: Description: InterEnbS1HO timeout.
	Suffix 3GPP: InterEnbS1HOTimeout
	Triggering Event: Expiration of interEnbS1Ho timer, supervising Handover execution procedure. This means: If PDCP SN status preservation does not apply for any E-RAB, no RrcConnectionReconfigurationComplete message received from the UE. If PDCP SN status preservation does apply for at least one E-RAB, no reception of S1 MME STATUS TRANFER from the MME or RrcConnectionReconfigurationComplete from the UE.
	Report group: MobilityFailure
	#4: Description: Security algorithm cannot be selected because none can match UE security capabilities.
	Suffix 3GPP: SecurityAlgoNotCompatible
	Triggering Event: Reception of S1AP HANDOVER REQUEST message from the MME when security algorithms supported by eNodeB are not compatible with security algorithms supported by UE.
	Report group: MobilityFailure
	#5: Description: RRC connection re-establishment on the target cell (*).
	Suffix 3GPP: RRCConnectionReestablishmentOnTargetCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the target cell (**) before reception of RRC Connection Reconfiguration Complete.
	Report group: MobilityFailure
	#6: Description: Integrity verification is failed on the first UL RRC message received on SRB1 (RRC Connection Reconfiguration Complete) or SRB2.
	Suffix 3GPP: IntegrityFailure
	Triggering Event: Detection of integrity failure on the first received UL RRC message.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#7: Description: RRC connection re-establishment on another cell of the target eNodeB (*).
	Suffix 3GPP: RRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell of the targe eNodeB (**) before reception of RRC Connection Reconfiguration Complete.
	Report group: MobilityFailure
	#8: Description: The operational state of the cell is unavailable (due to cell outage or due to cell lock).
	Suffix 3GPP: CellNotAvailable
	Triggering Event: Handover procedure failed due to problem in description.
	Report group: MobilityFailure
	#9: Description: Mobility cannot be performed by Target eNodeB due to OAM intervention during inter-frequency handover, including: Mobility not enabled in the target cell. Mobility is not Allowed (under ActivationService), barring the cell, S1 mobility is forbidden through configuration parameter in the target eNodeB (S1 handover feature activation flag isS1HoAllowed), Incoming handover to a cell reserved for operator use (When a cell is reserved for operator use, only RRC establishment requests using cause 'highPriorityAccess' are allowed).
	Suffix 3GPP: InterFreqInterventionOAM
	Triggering Event: Reception of S1AP HANDOVER REQUEST message from the MME and a problem in 'Description' is true. Description updated in LA5.0 CRI id=572267.
	Report group: MobilityFailure
	#10: Description: CAC failure for all E-RABs during inter-frequency handover. The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: InterFreqCACFailure
	Triggering Event: S1AP Handover request from the MME cannot be answered because a lack of resources.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#11: Description: Internal failure during inter-frequency handover.
	Suffix 3GPP: InterFreqInternalFailure
	Triggering Event: S1 AP Handover request from the MME cannot be answered due to eNodeB internal failure.
	Report group: MobilityFailure
	#12: Description: InterEnbS1HO timeout during inter-frequency handover.
	Suffix 3GPP: InterFreqInterEnbS1HOTimeout
	Triggering Event: Expiration of interEnbS1Ho timer, supervising Handover execution procedure. This means: If PDCP SN status preservation does not apply for any E-RAB, no RrcConnectionRe-configurationComplete message received from the UE. If PDCP SN status preservation does apply for at least one E-RAB, no reception of S1 MME STATUS TRANFER from the MME or RrcConnectionReconfigurationComplete from the UE.
	Report group: MobilityFailure
	#13: Description: Security algorithm cannot be selected because none can match UE security capabilities during inter-frequency handover.
	Suffix 3GPP: InterFreqSecurityAlgoNotCompatible
	Triggering Event: Reception of S1AP HANDOVER REQUEST message from the MME when security algorithms supported by eNodeB are not compatible with security algorithms supported by UE.
	Report group: MobilityFailure
	#14: Description: RRC connection re-establishment on the target cell (*) during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionRees-tablishmentOnTargetCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in the target cell (**) before reception of RRC Connection Reconfiguration Complete.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#15: Description: Integrity verification is failed on the first UL RRC message received on SRB1 (RRC Connection Reconfiguration Complete) or SRB2 during inter-frequency handover.
	Suffix 3GPP: InterFreqIntegrityFailure
	Triggering Event: Detection of integrity failure on the first received UL RRC message.
	Report group: MobilityFailure
	#16: Description: RRC connection re-establishment on another cell of the target eNodeB (*) during inter-frequency handover.
	Suffix 3GPP: InterFreqRRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest in another cell of the targe eNodeB (**) before reception of RRC Connection Reconfiguration Complete.
	Report group: MobilityFailure
	#17: Description: The operational state of the cell is unavailable (due to cell outage or due to cell lock) during inter-frequency handover.
	Suffix 3GPP: InterFreqCellNotAvailable
	Triggering Event: Handover procedure failed due to problem in description.
	Report group: MobilityFailure
	#18: Description: E-RAB Context allocation failure.
	Suffix 3GPP: ERABContextAllocationFailure
	Triggering Event: S1AP HANDOVER PREPARATION FAILURE message sending due to E-RAB Context allocation failure.
	Report group: MobilityFailure
	#19: Description: Failure due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: S1AP HANDOVER PREPARATION FAILURE message sending due to overload condition.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#20: Description: Failure due to UE inactivity and overload condition (exclusive with screening OverloadConditionFailure). *Suffix 3GPP:* InactivityOverloadFailure *Triggering Event:* S1AP HANDOVER PREPARATION FAILURE message sending due to UE inactivity and overload condition. *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	*) Even if re-establishment is successfully performed in the target cell, handover procedure is considered failed. (**) With LA2.0 feature 97937, re-establishment can occur on other cells in the target eNodeB. In case of Incoming Inter-eNodeB S1 handover resource allocation partial failure, the incoming Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is not pegged at this stage. May be pegged by FRS 103892.

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12732 - Total outgoing inter-eNodeB X2 handover abort

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12732
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOAbortSum
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	May be pegged by FRS 103892 and by FRS 115685.

12733 - Outgoing inter-eNodeB X2 handover abort

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure has been aborted from the cell.

Counter Information	Counter Value/Description
Counter Code	12733
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event.
	#0: Description: Reception of RrcMeasurementReport (measId configured for mobility trigger) triggering a cascaded handover during Inter-EnodeB outgoing X2 handover procedure.
	Suffix 3GPP: CascadedHandover
	Triggering Event: Reception of RrcMeasurementReport (measId configured for mobility trigger).
	Report group: MobilityFailure
	#1: Description: S1AP Reset received from the MME or S1AP Reset eNodeB initiated or S1AP UE Context Release Command received from the MME (with cause other than Succefful Handover).
	Suffix 3GPP: Other
	Triggering Event: S1AP Reset received from the MME or S1AP Reset eNodeB initiated.
	Report group: MobilityFailure
	#2: Description: Decision to perform a CS fallback.
	Suffix 3GPP: CsFallback
	Triggering Event: Decision to perform a CSfallback.
	Report group: MobilityFailure
	#3: Description: Inter-frequency Handover preparation cancelled upon reception of A1 event (leaving alarm conditions).
	Suffix 3GPP: EventA1
	Triggering Event: Reception of A1 event (leaving alarm conditions).
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#4: Description: Reception of X2AP Reset before HO request ACK.
	Suffix 3GPP: X2APReset
	Triggering Event: Reception of X2AP Reset.
	Report group: MobilityFailure
	#5: Description: Inter-frequency or intra-frequency Handover preparation of a VoIP call cancelled upon reception of HO request ACK with no VoIP bearer admission.
	Suffix 3GPP: VoIPBearerNonAdmission
	Triggering Event: Reception of HO Request ACK.
	Report group: MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOAbort
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Screening values 0 to 5 shall not be pegged when X2 handover preparation concerns an off-loading mobility (FRS 103892).

12734 - Total incoming inter-eNodeB X2 handover abort

This counter provides the number of times that an incoming inter-eNodeB X2 handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12734
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOAbortSum
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892 and in LA5.0 by FRS 115685.

12735 - Incoming inter-eNodeB X2 handover abort

This counter provides the number of times that an incoming inter-eNodeB X2 handover procedure has been aborted from the cell.

Counter Information	Counter Value/Description
Counter Code	12735
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event. *#0: Description:* Reception of X2AP Handover Cancel. *Suffix 3GPP:* X2APHOCancel *Triggering Event:* Reception of X2AP Handover Cancel. *Report group:* MobilityFailure *#1: Description:* Reception of X2AP Reset. *Suffix 3GPP:* X2APReset *Triggering Event:* Reception of X2AP Reset. *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOAbort
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	May be pegged by FRS 103892 and by FRS 115685.

12736 - Total outgoing inter-eNodeB S1 handover abort

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12736
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOAbortSum
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged in LA5.0 by FRS 115685.

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12737 - Outgoing inter-eNodeB S1 handover abort

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure has been aborted from the cell.

Counter Information	Counter Value/Description
Counter Code	12737
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event.
	#0: Description: Reception of RrcMeasurementReport (measId configured for mobility trigger) triggering a cascaded handover during Inter-EnodeB outgoing S1 handover procedure.
	Suffix 3GPP: CascadedHandover
	Triggering Event: Reception of RrcMeasurementReport (measId configured for mobility trigger).
	Report group: MobilityFailure
	#1: Description: S1AP Reset received from the MME or S1AP Reset eNodeB initiated or S1AP UE Context Release Command received from the MME (with cause other than Successful Handover).
	Suffix 3GPP: Other
	Triggering Event: S1AP Reset received from the MME or S1AP Reset eNodeB initiated or Reception of S1AP UE Context Release Command.
	Report group: MobilityFailure
	#2: Description: Decision to perform a CS fallback.
	Suffix 3GPP: CsFallback
	Triggering Event: Decision to perform a CS fallback.
	Report group: MobilityFailure
	#3: Description: Inter-frequency Handover preparation cancelled upon reception of A1 event (leaving alarm conditions).
	Suffix 3GPP: EventA1
	Triggering Event: Reception of A1 event (leaving alarm conditions).
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#4: Description: Inter-frequency or intra-frequency Handover preparation of a VoIP call cancelled upon receipt of S1 Handover Command with no VoIP bearer admission. *Suffix 3GPP:* VoIPBearerNonAdmission *Triggering Event:* Receipt of S1 Handover Command with no VoiP bearer admission *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOAbort
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Screening 0 to 4 shall not be pegged when an off-loading preparation is in progress (FRS 103892).

12738 - Intra-eNodeB handover abort

This counter provides the number of times an intra-eNodeB handover procedure has been aborted from the cell.

Counter Information	Counter Value/Description
Counter Code	12738
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event. *#0: Description:* S1AP Reset received from the MME or S1AP Reset eNodeB initiated or Reception of S1AP UE Context Release Command. *Suffix 3GPP:* S1APResetOrUEContextReleaseCommand *Triggering Event:* S1AP Reset received from the MME or S1AP Reset eNodeB initiated or Reception of S1AP UE Context Release Command. *Report group:* MobilityFailure *#2: Description:* Inter-frequency Handover preparation cancelled upon reception of A1 event (leaving alarm conditions). *Suffix 3GPP:* EventA1 *Triggering Event:* Reception of A1 event (leaving alarm conditions). *Report group:* MobilityFailure *#3: Description:* Inter-frequency or intra-frequency Handover preparation of a VoIP is cancelled upon non admission of all VoIP bearers by target cell. *Suffix 3GPP:* VoIPBearerNonAdmission *Triggering Event:* Source cell receives resource allocation status from target cell without VoIP bearer admission. *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IntraENodeBHOAbort
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12739 - Intra-cell handover KeNodeB refresh failure

This counter provides the number of times an intra-cell handover KeNodeB refresh procedure towards the cell has been failed.

Counter Information	Counter Value/Description
Counter Code	12739
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP UE Context Modification Failure message is sent.
Subcounters	Failure cause.
	#0: Description: Intra-cell handover KeNodeB refresh procedure failed due to an eNodeB internal failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#1: Description: No answer from the UE.
	Suffix 3GPP: Timeout
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#2: Description: RRCConnectionReestablishment rejected due to UE-Identity verification failure.
	Suffix 3GPP: RRCConnectionReestablishment
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#3: Description: Integrity Protection failure detected.
	Suffix 3GPP: IntegrityFailure
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure
	#4: Description: No security algorithm selected.
	Suffix 3GPP: NoSecurityAlgorithm
	Triggering Event: Please refer to common triggering event.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#5: Description: Intra-cell handover KeNodeB refresh procedure failed due to an eNodeB CAC failure.
	Suffix 3GPP: CACFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	HO Intra-Cell
Report group	Mandatory
3GPP name	VS.IntraCellHOKenodeBRefreshFailure
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12742 - Total intra-eNodeB handover abort

This counter provides the number of times an intra-eNodeB handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12742
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IntraENodeBHOAbortSum
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	May be also pegged in LA5.0 FRS 115685.

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12743 - Total incoming inter-eNodeB S1 handover abort

This counter provides the number of times that an incoming inter-eNodeB S1 handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12743
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOAbortSum
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	May be pegged iby FRS 103892 and by FRS 115685.

12744 - Incoming inter-eNodeB S1 handover abort

This counter provides the number of times that an incoming inter-eNodeB S1 handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12744
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event. *#0: Description:* Reception of S1AP UE Context Release Command during Inter-EnodeB incoming S1 handover procedure. *Suffix 3GPP:* S1APUEContextReleaseCommand *Triggering Event:* S1AP UE Context Release Command received from the MME (with cause other than Successful Handover). *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOAbort
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892 and by FRS 115685.

12745 - Outgoing intra-eNodeB handover attempt

This counter provides the number of times an intra-eNodeB handover procedure has been attempted from the source cell.

Counter Information	Counter Value/Description
Counter Code	12745
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a cell hosted by the same eNodeB equipment has been elected by the eNodeB application as being the target of a handover procedure, from this source cell.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.OutgoingIntraENodeBHOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged only in case: The target cell has been received as a potential target for Handover through RRC measurement received from the UE, The target cell is eligible (unlocked, available).

12746 - Outgoing intra-eNodeB handover success

This counter provides the number of times an intra-eNodeB handover procedure has been successfully performed from the source cell.

Counter Information	Counter Value/Description
Counter Code	12746
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RrcReconfigurationComplete message is received from the UE, indicating attachment to the target cell.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	HO.IntraEnbOutSucc.Sum
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Intra-eNodeB Handover partial failure, the Intra-eNodeB Handover procedure is considered as successful, this counter is pegged.

12747 - Redirection to inter-frequency same frame structure

This counter provides the number of times that the procedure for an redirection to inter-frequency same frame structure is required.

Counter Information	Counter Value/Description
Counter Code	12747
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered by an inter-frequency same frame structure redirection.
Subcounters	Family of event that may trigger such redirection. *#0: Description:* Event A2 (LTE Serving becomes worse than threshold1_RSRP). *Suffix 3GPP:* BlindViaEventA2AndThreshold1RSRP *Triggering Event:* Upon receipt of event A2 (LTE Serving becomes worse than threshold1_RSRP). *Report group:* Mandatory *#1: Description:* Event A2 (LTE Serving becomes worse than threshold1_RSRQ). *Suffix 3GPP:* BlindViaEventA2AndThreshold1RSRQ *Triggering Event:* Upon receipt of event A2 (LTE Serving becomes worse than threshold1_RSRQ). *Report group:* Mandatory *#2: Description:* Event A3 or Event A5 (Handover fallback). *Suffix 3GPP:* EventA3OrA5 *Triggering Event:* Upon receipt of event A3 or event A5 (decision to process a redirection when handover is not supported by the UE). *Report group:* Mandatory *#3: Description:* Off-load triggered upon eNodeB congestion detection. The redirection may be either measurement based using A4 or in blind mode. *Suffix 3GPP:* OffLoadTriggered *Triggering Event:* This screening is triggered when the eNode B makes the decision to perform the redirection to EUTRA for off-load reason to solve eNodeB congestion. *Report group:* Mandatory
Subfamily	Redirection

Counter Information	Counter Value/Description
Report group	Mandatory
3GPP name	VS.RedirectionToInterFrequencySameFrameStructure
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

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12761 - Enhanced non-optimized redirection to HRPD

This counter provides the number of enhanced non-optimized redirections to HRPD that are to be performed due to reception of an Event B2 report from the UE or due to off-load triggered upon eNodeB congestion detection .

Counter Information	Counter Value/Description
Counter Code	12761
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on sending of RrcConnectionRelease message containing redirection info to the UE : - upon reception of an Event B2 measurement report that indicates the signal in the serving cell becomes worse than a threshold and that in the target HRPD cell becomes better than another threshold. - or when the eNode B makes the decision to perform the redirection to HRPD for off-load reason to solve eNodeB congestion.
Subcounters	GPS state and UE capability. *#0: Description:* B2-based Redirection to HRPD in Sync Mode for DR-UE. *Suffix 3GPP:* SyncModeUeDR *Triggering Event:* Redirection to HRPD via Event B2 is performed while CdmaPhaseSync = 'Enabled/ any' and the UE is determined to be a dual-receiver UE. *Report group:* HRPDOr1xRTT *#1: Description:* B2-based Redirection to HRPD in Sync Mode for SR-UE. *Suffix 3GPP:* SyncModeUeSR *Triggering Event:* Redirection to HRPD via Event B2 is performed while CdmaPhaseSync = 'Enabled/ any' and the UE is determined to be a single-receiver UE. *Report group:* HRPDOr1xRTT *#2: Description:* B2-based Redirection to HRPD in Async Mode for DR-UE. *Suffix 3GPP:* AsyncModeUeDR *Triggering Event:* Redirection to HRPD via Event B2 is performed while CdmaPhaseSync = 'Disabled/ dependency' and GpsTime = 'Enabled/ none', and the UE is determined to be a dual-receiver UE. *Report group:* HRPDOr1xRTT

Counter Information	Counter Value/Description
	#3: Description: B2-based Redirection to HRPD in Async Mode for SR-UE. *Suffix 3GPP:* AsyncModeUeSR *Triggering Event:* Redirection to HRPD via Event B2 is performed while CdmaPhaseSync = 'Disabled/ dependency' and GpsTime = 'Enabled/ none', and the UE is determined to be a single -receiver UE. *Report group:* HRPDOr1xRTT *#4: Description:* B2-based Redirection to HRPD without CDMA system time in SIB8. *Suffix 3GPP:* NoSysTime *Triggering Event:* Redirection to HRPD via Event B2 is performed while GpsTime = 'Disabled/ any' and CdmaPhaseSync = 'Disabled/ any'. *Report group:* HRPDOr1xRTT *#5: Description:* Off-load triggered upon eNodeB congestion detection. The redirection may be either measurement based using B1 (or B2 as fallback) or in blind mode. *Suffix 3GPP:* OffLoadTriggered *Triggering Event:* This screening is triggered when the eNode B makes the decision to perform the redirection to HRPD for off-load reason to solve eNodeB congestion. *Report group:* HRPDOr1xRTT
Subfamily	Redirection
Report group	Mandatory
3GPP name	VS.EnhancedNonOptimizedRedirectionToHRPD
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

Counter Information	Counter Value/Description
Notes	(1) The separate DR-UE and SR-UE screenings provide profile info of UEs involved in LTE-to-HRPD mobility. (2) Sync-mode in SIB8 allows UEs to perform HRPD measurements and reporting more promptly than the aysnc-mode counterpart. The (relative) sluggishness of the latter could contribute to a small increase in RLF when compared to the former. (3) LA3.0 WPS checks restrict Event B2 measurement configuration to use RSRP only or RSRQ only for simplification. (4) If dual-receiver UEs dominate, i.e. (12761-0 + 12761-2) is much greater than (12761-1 + 12761-3), and if the ratio of 12714 to (12761-0 + 12761-2 + 12761-1 + 12761-3 + 12714) is realtively large, it may imply that UEs did not have enough time to perform B2 measurements. In this case, consider changing measurementUponCellEntry to 'when-MG-not-required' (L103891). Similarly, if single-receiver UEs dominate and the ratio above is relatively large, consider changing measurementUponCellEntry to 'always'. Screening 0 to 4 shall not be pegged when mobility is triggered by off-load decision (FRS 103892).

12762 - Cell change order to GERAN attempt

This counter provides the number of times a cell change order to GERAN procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12762
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RRC-MobilityFromEUTRA message with purpose 'cellChangeOrder' has been sent to UE and no CS fallback procedure is on-going.
Subcounters	Family of event that may trigger cell change order to GERAN.
	#0: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is available. Event configured for radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRPThreshold2GERANWithNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and cell change order with NACC to GERAN is performed (that is RRC-MobilityFromEUTRA with GERAN System Information was sent to UE) and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#1: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is available. Event configured for radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRQThreshold2GERANWithNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_ GERAN) and cell change order with NACC to GERAN is performed (that is RRC-MobilityFromEUTRA with GERAN System Information was sent to UE) and no CS fallback procedure is on-going.
	Report group: GeranOrUtran

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Counter Information	Counter Value/Description
	#2: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is NOT available. Event configured for radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRPThreshold2GERANWithoutNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and cell change order without NACC to GERAN is performed (that is RRC-MobilityFromEUTRA without GERAN System Information was sent to UE) and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#3: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is NOT available. Event configured for radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRQThreshold2GERANWithoutNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_ GERAN) and cell change order without NACC to GERAN is performed (that is RRC-MobilityFromEUTRA without GERAN System Information was sent to UE) and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#4: Description: Event B1 (GERAN neighbour becomes higher than threshold_GERAN) and GERAN system information is available. Event configured upon off-loading decision.
	Suffix 3GPP: MeasurementViaEventB1AndThresholdGeranWithNACC
	Triggering Event: Upon event B1 (inter RAT GERAN neighbour becomes higher than threshold_GERAN) and cell change order with NACC to GERAN is performed (that is RRC-MobilityFromEUTRA with GERAN System Information was sent to UE).
	Report group: GeranOrUtran

Counter Information	Counter Value/Description
	#5: Description: Event B1 (GERAN neighbour becomes higher than threshold_GERAN) and GERAN system information is NOT available. Event configured upon off-loading decision. *Suffix 3GPP:* MeasurementViaEventB1AndThresholdGeranWithoutNACC *Triggering Event:* Upon event B1 (inter RAT GERAN neighbour becomes higher than threshold_GERAN) and cell change order without NACC to GERAN is performed (that is RRC-MobilityFromEUTRA without GERAN System Information was sent to UE). *Report group:* GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.CCOToGeranAttempt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Since LA5.0 FRS 115685, this counter is no longer pegged for a VoIP call: CCO not allowed for a VoIP call.

12763 - Cell change order to GERAN success

This counter provides the number of times a cell change order to GERAN procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12763
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1AP UE CONTEXT RELEASE COMMAND message has been received from the MME or on expiration of TmobilityFromEutraCCO timer and no CS fallback procedure is on-going.
Subcounters	Family of event that may trigger cell change order to GERAN.
	#0: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is available. Event configured upon radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRPThreshold2GERANWithNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and cell change order with NACC to GERAN was performed successfully upon receiving S1AP UE CONTEXT RELEASE COMMAND message from the MME or on the expiration of timer TmobilityFromEutraCCO and no CS fallback procedure is on-going.
	Report group: GeranOrUtran

Counter Information	Counter Value/Description
	#1: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is available. Event configured upon radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRQThreshold2GERANWithNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_ GERAN) and cell change order with NACC to GERAN was performed successfully upon receiving S1AP UE CONTEXT RELEASE COMMAND message from the MME or on the expiration of timer TmobilityFromEutraCCO and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#2: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is NOT available. Event configured upon radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRPThreshold2GERANWithoutNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRP and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and cell change order without NACC to GERAN was performed successfully upon receiving S1AP UE CONTEXT RELEASE COMMAND message from the MME or on the expiration of timer TmobilityFromEutraCCO and no CS fallback procedure is on-going.
	Report group: GeranOrUtran

Counter Information	Counter Value/Description
	#3: Description: Event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_GERAN) and GERAN system information is NOT available. Event configured upon radio or off-loading decision.
	Suffix 3GPP: EventB2AndThreshold1RSRQThreshold2GERANWithoutNACC
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRQ and inter RAT GERAN neighbour becomes better than threshold2_ GERAN) and cell change order without NACC to GERAN was performed successfully upon receiving S1AP UE CONTEXT RELEASE COMMAND message from the MME or on the expiration of timer TmobilityFromEutraCCO and no CS fallback procedure is on-going.
	Report group: GeranOrUtran
	#4: Description: Event B1 (GERAN neighbour becomes higher than threshold_GERAN) and GERAN system information is available. Event configured upon off-loading decision.
	Suffix 3GPP: EventB1AndThresholdGeranWithNACC
	Triggering Event: Upon event B1 (inter RAT GERAN neighbour becomes higher than threshold_GERAN) configured for off-loading purpose and cell change order with NACC to GERAN was performed successfully upon receiving S1AP UE CONTEXT RELEASE COMMAND message from the MME or on the expiration of timer TmobilityFromEutraCCO.
	Report group: GeranOrUtran
	#5: Description: Event B1 (GERAN neighbour becomes higher than threshold_GERAN) and GERAN system information is NOT available.
	Suffix 3GPP: EventB1AndThresholdGeranWithoutNACC
	Triggering Event: Upon event B1 (inter RAT GERAN neighbour becomes higher than threshold_GERAN) configured for off-loading purpose and cell change order without NACC to GERAN was performed successfully upon receiving S1AP UE CONTEXT RELEASE COMMAND message from the MME or on the expiration of timer TmobilityFromEutraCCO.
	Report group: GeranOrUtran
Subfamily	Cell Change Order

Counter Information	Counter Value/Description
Report group	Mandatory
3GPP name	VS.CCOToGeranSuccess
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	The S1 UE CONTEXT RELEASE COMMAND should reach the source eNodeB before TmobilityFromEutraCCO expiry. Since LA5.0 FRS 115685, this counter is no longer pegged for a VoIP call: CCO not allowed for a VoIP call.

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12764 - Total cell change order to GERAN failure

This counter provides the number of times a cell change order to GERAN procedure from the cell has failed.

Counter Information	Counter Value/Description
Counter Code	12764
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on any failure making impossible to perform cell change order to GERAN, including protocol errors.
Subcounters	Family of event that may trigger cell change order to GERAN. *#0: Description:* Total cell change order with NACC to GERAN failure: Number of times a cell change order with NACC to GERAN procedure from the cell has failed. *Suffix 3GPP:* withNACC *Triggering Event:* Any failure making impossible to perform cell change order with NACC to GERAN, including protocol errors and no CS fallback procedure is on-going. *Report group:* GeranOrUtran *#1: Description:* Total cell change order without NACC to GERAN failure: Number of times a cell change order without NACC to GERAN procedure from the cell has failed. *Suffix 3GPP:* withoutNACC *Triggering Event:* Any failure making impossible to perform cell change order without NACC to GERAN, including protocol errors and no CS fallback procedure is on-going. *Report group:* GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.CCOToGeranFailureSum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	May be pegged by FRS 103892. Since LA5.0 FRS 115685, this counter is no longer pegged for a VoIP call: CCO not allowed for a VoIP call

12765 - Cell change order to GERAN failure

This counter provides the number of times a cell change order to GERAN procedure from the cell has failed for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12765
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: RRC connection re-establishment: reception of RrcConnectionReestablishmentRequest before the timer TmobilityFromEutraCCO expires during cell change order with NACC procedure.
	Suffix 3GPP: RRCConnectionReestablishmentInCCOwithNACC
	Triggering Event: Reception of RrcConnectionReestablishmentRequest before the timer TmobilityFromEutraCCO expires and no CS fallback procedure is on-going.
	Report group: MobilityFailure
	#1: Description: RRC connection re-establishment: reception of RrcConnectionReestablishmentRequest before the timer TmobilityFromEutraCCO expires during cell change order without NACC procedure.
	Suffix 3GPP: RRCConnectionReestablishmentInCCOwithoutNACC
	Triggering Event: Reception of RrcConnectionReestablishmentRequest before the timer TmobilityFromEutraCCO expires and no CS fallback procedure is on-going.
	Report group: MobilityFailure
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.CCOToGeranFailure
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	May be pegged by FRS 103892. Since LA5.0 FRS 115685, this counter is no longer pegged for a VoIP call: CCO not allowed for a VoIP call.

12766 - Intra-eNodeB handover preparation success

This counter provides the number of times an intra-eNodeB handover preparation procedure has been successfully performed from the source cell.

Counter Information	Counter Value/Description
Counter Code	12766
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a RrcConfigurationReconfiguration message is sent to the UE.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	HO.IntraEnbOutAtt.Sum
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Intra-eNodeB Handover partial failure, the Intra-eNodeB Handover procedure is considered as successful, this counter is pegged.

12767 - Outgoing inter-eNodeB X2 handover preparation success

This counter provides the number of times an outgoing inter-eNodeB X2 handover preparation procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12767
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP HANDOVER REQUEST ACKNOWLEDGE message is received from the target eNodeB.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOPreparationSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing Inter-eNodeB X2 Handover resource allocation partial failure, the Outgoing Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is pegged. May be pegged by FRS 103892.

12768 - Incoming inter-eNodeB X2 handover preparation success

This counter provides the number of times that an incoming inter-eNodeB X2 handover preparation procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12768
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP HANDOVER REQUEST ACKNOWLEDGE message is sent to source cell.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOPreparationSuccess
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB X2 Handover resource allocation partial failure, the Incoming Inter-eNodeB X2 preparation Handover procedure is considered as successful, this counter is pegged. May be pegged by FRS 103892.

12769 - Outgoing inter-eNodeB S1 handover preparation success

This counter provides the number of times that an outgoing inter-eNodeB S1 handover preparation procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12769
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 HANDOVER COMMAND message is received from the MME.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOPreparationSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing Inter-eNodeB S1 Handover resource allocation partial failure, the Outgoing Inter-eNodeB S1 Handover preparation procedure is considered as successful, this counter is pegged. May be pegged by FRS 103892.

12770 - Incoming inter-eNodeB S1 handover preparation success

This counter provides the number of times that an incoming inter-eNodeB S1 handover preparation procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12770
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 HANDOVER REQUEST ACKNOWLEDGE message is sent to the MME.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOPreparationSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB S1 handover resource allocation partial failure, the incoming Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is pegged. May be pegged by FRS 103892.

12771 - Outgoing gap-assisted handover attempt

This counter provides the number of times that an outgoing gap-assisted handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12771
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered for the gap-assisted handover when: - In intra-eNodeB handover, a cell hosted by the same eNodeB equipment has been elected by the eNodeB application as being the target of a handover procedure, from this source cell. Screening 0 is pegged. - In inter-eNodeB X2 handover, X2AP HANDOVER REQUEST message is sent to the target eNodeB. Screening 0 is pegged. - In inter-eNodeB S1 handover, S1AP HANDOVER REQUIRED message is sent to the MME. Screening 0 is pegged. - In inter-RAT handover, S1AP HANDOVER REQUIRED message is sent to the MME. Screening 1 is pegged.
Subcounters	IntraLTE or InterRAT handover.
	#0: Description: IntraLTE handover.
	Suffix 3GPP: IntraLTE
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: InterRAT handover.
	Suffix 3GPP: InterRAT
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	HO Gap assisted
Report group	Mandatory
3GPP name	VS.OutgoingGapAssistedHOAttempt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12772 - Outgoing gap-assisted handover success

This counter provides the number of times that an outgoing gap-assisted handover procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12772
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered for the gap-assisted handover when: - In intra-eNodeB handover, RrcReconfigurationComplete message is received from the UE, indicating attachment to the target cell. Screening 0 is pegged. - In inter-eNodeB X2 handover, X2AP UE CONTEXT RELEASE message is received from the target eNodeB. Screening 0 is pegged. - In inter-eNodeB S1 handover, S1AP UE CONTEXT RELEASE COMMAND message with cause as Successful handover is received from the MME. Screening 0 is pegged. - In inter-RAT handover, S1AP HANDOVER REQUIRED message is sent to the MME. Screening 1 is pegged.
Subcounters	IntraLTE or InterRAT handover. *#0: Description:* IntraLTE handover. *Suffix 3GPP:* IntraLTE *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* InterRAT handover. *Suffix 3GPP:* InterRAT *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	HO Gap assisted
Report group	Mandatory
3GPP name	HO.InterFreqMeasGapOutSucc
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Handover partial failure, the Handover procedure is considered as successful, this counter is pegged.

12773 - Total outgoing gap-assisted handover failure

This counter provides the number of times that an outgoing gap-assisted handover procedure has been failed.

Counter Information	Counter Value/Description
Counter Code	12773
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes gap-assisted handover impossible to perform from the cell. The screening 0 is pegged in case of intraLTE handover. and the screening 1 is pegged in case of InterRAT handover.
Subcounters	IntraLTE or InterRAT handover. *#0: Description:* IntraLTE handover. *Suffix 3GPP:* IntraLTE *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* InterRAT handover. *Suffix 3GPP:* InterRAT *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	HO Gap assisted
Report group	Mandatory
3GPP name	VS.OutgoingGapAssistedHOFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Handover partial failure, the Handover procedure is considered as successful, this counter is not pegged.

12774 - Total outgoing gap-assisted handover abort

This counter provides the number of times that an outgoing gap-assisted handover procedure has been aborted.

Counter Information	Counter Value/Description
Counter Code	12774
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any abnormity, that makes gap-assisted handover impossible to perform from the cell. The screening 0 is pegged in case of intraLTE handover. and the screening 1 is pegged in case of InterRAT handover.
Subcounters	IntraLTE or InterRAT handover. *#0: Description:* IntraLTE handover. *Suffix 3GPP:* IntraLTE *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* InterRAT handover. *Suffix 3GPP:* InterRAT *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	HO Gap assisted
Report group	Mandatory
3GPP name	VS.OutgoingGapAssistedHOAbortSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged in LA5.0 by FRS 115685.

12775 - X2 RLF indication unprepared cell

This counter provides the number of radio link failure indications in the cases identified as leading to an actual end-user call drop: the re-establishment was rejected because the cell on which the UE has attempted a re-establishment did not own a correct UE Context. This cell is referred as an unprepared cell.

Counter Information	Counter Value/Description
Counter Code	12775
Counter Type	CUMULATE
Triggering (Event)	Reception of an X2AP RLF INDICATION message in specific identified scenarios (referred to screening cause).
Subcounters	RLF Indication identified scenario. *#0: Description:* This counter provides the number of radio link failure indications due to too late handover. *Suffix 3GPP:* TooLate *Triggering Event:* This counter is triggered in case of too late handover. *Report group:* Mandatory *#1: Description:* This counter provides the number of radio link failure indications due to too early handover. *Suffix 3GPP:* TooEarly *Triggering Event:* This counter is triggered in case of too early handover. *Report group:* Mandatory *#2: Description:* This counter provides the number of radio link failure indications due to handover on wrong cell. *Suffix 3GPP:* ToWrongCell *Triggering Event:* This counter is triggered in case of handover on wrong cell. *Report group:* Mandatory
Subfamily	Radio Link Failure
Report group	Mandatory
3GPP name	VS.X2RLFIndicationUnpreparedCell
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12776 - Outgoing intra-frequency handover failure

This counter provides the number of mobility robustness optimization cases that have been detected in the cell.

Counter Information	Counter Value/Description
Counter Code	12776
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered for each radio link failure use case. Refer to each screening for detail.
Subcounters	Mobility Robustness Optimization use case.
	#0: Description: This counter provides the number of too late outgoing intra-frequency handovers.
	Suffix 3GPP: TooLate
	Triggering Event: This counter is triggered in case of too late intra-frequency handover.
	Report group: Mandatory
	#1: Description: This counter provides the number of too early outgoing intra-frequency handovers.
	Suffix 3GPP: TooEarly
	Triggering Event: This counter is triggered in case of too early intra-frequency handover.
	Report group: Mandatory
	#2: Description: This counter provides the number of outgoing intra-frequency handovers to wrong cell.
	Suffix 3GPP: ToWrongCell
	Triggering Event: This counter is triggered in case of intra-frequency handover to wrong cell.
	Report group: Mandatory
Subfamily	Mobility Robustness Optimization
Report group	Mandatory
3GPP name	VS.OutgoingIntraFrequencyHOFailure
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12777 - Outgoing intra-frequency handover mobility event

This counter provides the total number of outgoing intra-frequency mobility related events.

Counter Information	Counter Value/Description
Counter Code	12777
Counter Type	CUMULATE
Triggering (Event)	This counter is firstly triggered on sending one RRCConnection-Reconfiguration message for a handover command towards a target cell: during an intra-frequency intra-eNodeB handover or during an intra-frequency X2 handover. This counter is secondly triggered on receiving X2 RLF INDICATION when no RRCConnectionReconfiguration message was sent before and timer hoReportTimer is not running (in case of too late handover). This counter is finally triggered on reception of re-establishment request on another cell of the same eNodeB, same frequency, while no handover is ongoing (no handover command message sent before) This counter is incremented at the 'Source Cell' level.
Subcounters	Not defined
Subfamily	Mobility Robustness Optimization
Report group	Mandatory
3GPP name	VS.OutgoingIntraFrequencyHOMobilityEvent
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12778 - Outgoing intra-frequency handover failure per relation

This counter provides, for a LTE neighboring cell relation, the number of mobility robustness optimization cases that have been detected in the cell.

Counter Information	Counter Value/Description
Counter Code	12778
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered for each radio link failure use case. Refer to each screening for detail.
Subcounters	Mobility Robustness Optimization use case. *#0: Description:* This counter provides for a LTE neighboring cell relation, the number of too late outgoing intra-frequency handovers. *Suffix 3GPP:* TooLate *Triggering Event:* This counter is triggered in case of too late intra-frequency handover. *Report group:* Mandatory *#1: Description:* This counter provides, for a LTE neighboring cell relation, the number of too early outgoing intra-frequency handovers. *Suffix 3GPP:* TooEarly *Triggering Event:* This counter is triggered in case of too early intra-frequency handover. *Report group:* Mandatory *#2: Description:* This counter provides, for a LTE neighboring cell relation, the number of outgoing intra-frequency handovers to wrong cell. *Suffix 3GPP:* ToWrongCell *Triggering Event:* This counter is triggered in case of intra-frequency handover to wrong cell. *Report group:* Mandatory
Subfamily	Mobility Robustness Optimization
Report group	Mandatory
3GPP name	HO.IntraFreqOutFail
Object Class	LteIntrafreqNeighboringCellRelation

Counter Information	Counter Value/Description
Range	0 to 2^{32}-1
Unit	EVENT

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12779 - Outgoing intra-frequency handover mobility event per relation

This counter provides the total number of outgoing intra-frequency mobility related events per relation.

Counter Information	Counter Value/Description
Counter Code	12779
Counter Type	CUMULATE
Triggering (Event)	This counter is firstly triggered on sending one RRCConnection-Reconfiguration message for a handover command towards a target cell: during an intra-frequency intra-eNodeB handover or during an intra-frequency X2 handover: source-cell to target-cell Neighboring Cell Relation (NCR) level. This counter is secondly triggered on receiving X2 RLF INDICATION when no RRCConnectionReconfiguration message was sent before and timer hoReportTimer is not running (in case of too late handover): source-cell to re-establishment-cell NCR level. This counter is finally triggered on reception of re-establishment request on another cell of the same eNodeB, same frequency, while no handover is ongoing (no handover command message sent before): source-cell to re-establishment-cell NCR level.
Subcounters	Not defined
Subfamily	Mobility Robustness Optimization
Report group	Mandatory
3GPP name	VS.OutgoingIntraFrequencyHOMobilityEventPerRelation
Object Class	LteIntrafreqNeighboringCellRelation
Range	0 to 2^{32}-1
Unit	EVENT

12780 - Outgoing CS fallback PS handover to UTRA FDD attempt

This counter provides the number of times that an outgoing PS handover procedure has been attempted from the cell towards UTRA FDD for the purpose of both regular and emergency CS fallback.

Counter Information	Counter Value/Description
Counter Code	12780
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered - either on reception of RrcMeasurementReport message containing a UTRA FDD cell - or during an ongoing PS Handover, on reception of S1AP UE CONTEXT MODIFICATION REQUEST, CS Fallback Indicator = 'CS Fallback Required','Carrier (UTRAN) targeted for CSFB'equal ongoing PS HO target.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingCsFallbackPSHOToUtraFddAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12781 - Outgoing CS fallback PS handover to UTRA FDD success

This counter provides the number of times that an outgoing regular or emergency CS fallback PS handover procedure has been successfully performed from the cell towards UTRA FDD.

Counter Information	Counter Value/Description
Counter Code	12781
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of an S1AP UE Context Release Command message from the MME with cause 'Successful handover', after triggering a PS Handover to UTRA FDD for CS fallback purposes.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingCsFallbackPSHOToUtraFddSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing CS fallback PS handover partial failure, the Outgoing CS fallback PS Handover procedure is considered as successful, this counter is pegged.

12782 - Total outgoing CS fallback PS handover to UTRA FDD failure

This counter provides the number of times that an outgoing regular or emergency CS fallback PS handover procedure has been failed from the cell towards UTRA FDD.

Counter Information	Counter Value/Description
Counter Code	12782
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform. The following events indicate a handover failure to UTRA FDD: - S1AP Handover Preparation Failure received from the MME. - Expiration of TS1RelocPrepForPSHandoverToUtra timer. - Expiration of TS1RelocOverall timer. - Radio link failure detected by the eNodeB. Counter shall be pegged only in case Radio Link failure is detected before RrcHandoverFromEUTRACommand has been sent to the UE. - RRC Re-establishment in one of the cells of the eNodeB.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingCsFallbackPSHOToUtraFddFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing CS fallback PS Handover partial failure, the Outgoing CS fallback PS Handover procedure is considered as successful, this counter is not pegged.

12783 - Total outgoing CS fallback PS handover to UTRA FDD abort

This counter provides the number of times that an outgoing regular or emergency CS fallback PS handover to UTRA FDD procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12783
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event, that leads the eNodeB to abort the handover procedure. The following events leads to abort an handover to UTRA FDD: - S1AP UE Context Release Command received from the MME (with cause other than Successful Handover). - Expiration of maxTimeAllowedForCsfb-MobilityAttempt. - S1AP Reset received from the MME. - S1AP Reset eNodeB initiated. -'RrcMeasurementReport (Event A2) message received from the UE.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingCsFallbackPSHOToUtraFddAbortSum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12784 - CS fallback cell change order to GERAN attempt

This counter provides the number of times a cell change order to GERAN procedure has been attempted from the cell for both regular and emergency CS fallback purposes.

Counter Information	Counter Value/Description
Counter Code	12784
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of RrcMeasurementReport message containing a GERAN cell.
Subcounters	Whether GERAN System Information is available for the target cell or not (NACC: Network Assisted Cell Change).
	#0: Description: GERAN System Information is available for the target cell.
	Suffix 3GPP: WithNACC
	Triggering Event: Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available.
	Report group: GeranOrUtran
	#1: Description: GERAN System Information is not available for the target cell.
	Suffix 3GPP: WithoutNACC
	Triggering Event: Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available.
	Report group: GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.CsFallbackCCOToGeranAttempt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12785 - CS fallback cell change order to GERAN success

This counter provides the number of times a cell change order to GERAN procedure has been successfully performed from the cell for both regular and emergency CS fallback purposes.

Counter Information	Counter Value/Description
Counter Code	12785
Counter Type	CUMULATE
Triggering (Event)	This counter is triggerd on reception of an S1AP UE Context Release Command message from the MME or on expiration of TmobilityFromEutraCCO timer, after triggering a Cell Change Order to GERAN for CS fallback purposes.
Subcounters	Whether GERAN System Information is available for the target cell or not (NACC: Network Assisted Cell Change).
	#0: Description: GERAN System Information is available for the target cell.
	Suffix 3GPP: WithNACC
	Triggering Event: Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available.
	Report group: GeranOrUtran
	#1: Description: GERAN System Information is not available for the target cell.
	Suffix 3GPP: WithoutNACC
	Triggering Event: Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available.
	Report group: GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.CsFallbackCCOToGeranSuccess
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12786 - Total CS fallback cell change order to GERAN failure

This counter provides the number of times a cell change order to GERAN procedure from the cell for both regular and emergency CS fallback has failed.

Counter Information	Counter Value/Description
Counter Code	12786
Counter Type	CUMULATE
Triggering (Event)	Any failure making impossible to perform cell change order without NACC to GERAN. The following events indicate a Cell Change Order failure: - RRC Re-establishment in one of the cells of the eNodeB if it occurs after RrcHandoverFromEUTRACommand has been sent to the UE.
Subcounters	Whether GERAN System Information is available for the target cell or not (NACC: Network Assisted Cell Change). *#0: Description:* Total cell change order with NACC to GERAN failure: Number of times a cell change order with NACC to GERAN procedure from the cell has failed. *Suffix 3GPP:* WithNACC *Triggering Event:* Please refer to common triggering event. *Report group:* GeranOrUtran *#1: Description:* Total cell change order without NACC to GERAN failure: Number of times a cell change order without NACC to GERAN procedure from the cell has failed. *Suffix 3GPP:* WithoutNACC *Triggering Event:* Please refer to common triggering event. *Report group:* GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.CsFallbackCCOToGeranFailureSum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12787 - Outgoing PS handover to UTRA FDD attempt

This counter provides the number of times that an outgoing PS handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12787
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP HANDOVER REQUIRED message is sent to the MME.
Subcounters	Family of event that may trigger inter-RAT PS Handover to UTRA-FDD. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2EcN0 *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#2: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#3: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2EcN0
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#4: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_RSCP) configured upon off-loading decision.
	Suffix 3GPP: MeasurementViaEventB1AndThresholdRSCP
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_RSCP).
	Report group: GeranOrUtran
	#5: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_EcN0) configured for off-loading decision.
	Suffix 3GPP: MeasurementViaEventB1AndThresholdEcN0
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_EcN0).
	Report group: GeranOrUtran
Subfamily	HO PS
Report group	Mandatory
3GPP name	VS.OutgoingPSHOToUtraFddAttempt
Object Class	CellPLMN

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Counter Information	Counter Value/Description
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter doesn't take into account PS Handover to UTRA FDD during a CS fallback procedure.

12788 - Outgoing PS handover to UTRA FDD success

This counter provides the number of times that an outgoing PS handover procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12788
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP UE CONTEXT RELEASE COMMAND message with cause Successful handover is received from the MME.
Subcounters	Family of event that may trigger inter-RAT PS Handover to UTRA-FDD. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2EcN0 *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#2: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#3: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2EcN0
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#4: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_EcN0).
	Suffix 3GPP: MeasurementViaEventB1AndThresholdEcN0
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_EcN0) configured for off-loading purpose.
	Report group: GeranOrUtran
	#5: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_RSCP).
	Suffix 3GPP: MeasurementViaEventB1AndThresholdRSCP
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_RSCP) configured for off-loading purpose.
	Report group: GeranOrUtran
Subfamily	HO PS
Report group	Mandatory
3GPP name	VS.OutgoingPSHOToUtraFddSuccess

Counter Information	Counter Value/Description
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	The S1 UE CONTEXT RELEASE COMMAND should reach the source eNodeB before TS1RELOCoverall expiry. In case of Outgoing PS handover resource allocation RA FDD during partial failure, the Outgoing PS Handover preparation procedure is considered as successful when triggered: this counter is pegged if the handover is successful. This counter doesn't take into account PS Handover to UTRA FDD during a CS Fallback procedure. May be pegged in LA4.0.1 by FRS 103892.

12789 - Total outgoing PS handover to UTRA FDD failure

This counter provides the number of times that an outgoing PS handover procedure has been failed from the cell.

Counter Information	Counter Value/Description
Counter Code	12789
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	HO PS
Report group	GeranOrUtran
3GPP name	VS.OutgoingPSHOToUtraFddFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing PS Handover resource allocation partial failure, the Outgoing PS Handover preparation procedure is considered as successful this counter is not pegged at this stage. This counter doesn't take into account PS Handover to UTRA FDD during a CS Fallback procedure. May be pegged by FRS 103892.

12790 - Outgoing PS handover to UTRA FDD failure

This counter provides the number of times that an outgoing PS handover procedure has been failed from the cell for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12790
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: Handover preparation failure.
	Suffix 3GPP: HOPreparationFailure
	Triggering Event: S1AP HANDOVER PREPARATION FAILURE received from the MME.
	Report group: MobilityFailure
	#1: Description: TS1RelocPrepForPSHandoverToUtra timeout.
	Suffix 3GPP: TS1RelocPrepForPSHOToUtraTimeout
	Triggering Event: Expiration of TS1RelocPrepForPSHandoverToUtraFdd timer, supervising the Handover preparation procedure (that is, no answer from the MME).
	Report group: MobilityFailure
	#3: Description: RRC connection re-establishment On the source cell: reception of RrcConnectionReestablishmentRequest in the source cell.
	Suffix 3GPP: RRCConnectionReestablishmentOnSourceCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest.
	Report group: MobilityFailure
	#4: Description: RRC connection re-establishment on another cell: reception of RrcConnectionReestablishmentRequest in another cell.
	Suffix 3GPP: RRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#5: Description: TS1RelocOverallForPSHandoverToUtratimeout. *Suffix 3GPP:* TS1RelocOveralForPSHOToUtraTimeout *Triggering Event:* Expiration of TS1RelocOverall timer, supervising Handover execution procedure (that is, no S1AP UE CONTEXT RELEASE COMMAND from the MME). *Report group:* MobilityFailure
Subfamily	HO PS
Report group	Mandatory
3GPP name	VS.OutgoingPSHOToUtraFddFailure
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Outgoing PS Handover resource allocation partial failure, the Outgoing PS Handover preparation procedure is considered as successful, this counter is not pegged at this stage. This counter doesn't take into account PS Handover to UTRA FDD during a CS Fallback procedure. May be pegged by FRS 103892.

12791 - Total outgoing PS handover to UTRA FDD abort

This counter provides the number of times that an outgoing PS handover to UTRA FDD procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12791
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	HO PS
Report group	GeranOrUtran
3GPP name	VS.OutgoingPSHOToUtraFddAbortSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter doesn't take into account PS Handover to UTRA FDD during a CS fallback procedure. May be pegged by FRS 103892.

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12792 - Outgoing PS handover to UTRA FDD abort

This counter provides the number of times that an outgoing PS handover to UTRA FDD procedure has been aborted from the cell.

Counter Information	Counter Value/Description
Counter Code	12792
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event. *#0: Description:* S1AP UE Context Release Command received from the MME (with cause other than Successful Handover). *Suffix 3GPP:* S1APUEContextReleaseCommand *Triggering Event:* S1AP UE Context Release Command received from the MME. *Report group:* MobilityFailure *#1: Description:* Reception of RrcMeasurementReport (measId configured for handover trigger) triggering a cascaded handover during PS handover to UTRA FDD procedure. *Suffix 3GPP:* CascadedHandover *Triggering Event:* Reception of RrcMeasurementReport (measId configured for handover trigger). *Report group:* MobilityFailure *#2: Description:* S1AP Reset received from the MME or S1AP Reset eNodeB initiated. *Suffix 3GPP:* Other *Triggering Event:* S1AP Reset received from the MME or S1AP Reset eNodeB initiated. *Report group:* MobilityFailure *#3: Description:* Decision to perform a CS fallback. *Suffix 3GPP:* CsFallback *Triggering Event:* Decision to perform a CS fallback. *Report group:* MobilityFailure

Counter Information	Counter Value/Description
	#4: Description: Handover preparation cancelled upon reception of A1 event (leaving alarm conditions). *Suffix 3GPP:* EventA1 *Triggering Event:* Reception of A1 event (leaving alarm conditions). *Report group:* MobilityFailure *#5: Description:* An off-loading mobility preparation procedure is in progress. Upon partial resource allocation done by target for a non VoIP call, or non admission by target of any VoIP bearer for a VoIP call or upon triggering a procedure having higher priority, the Handover is aborted by source eNodeB. *Suffix 3GPP:* Offloading *Triggering Event:* An off-loading mobility preparation procedure is in progress and eNodeB sends a S1AP HANDOVER CANCEL message towards MME. This message is sent upon receipt of S1 AP HANDOVER COMMAND with partial E-RAB or upon triggering of a procedure having higher priority. *Report group:* MobilityFailure *#6: Description:* An mobility preparation procedure for radio reason is in progress. Upon non admission by target of any VoIP bearer for a VoIP call, the Handover is aborted by source eNodeB. *Suffix 3GPP:* VoIPBearerNonAdmission *Triggering Event:* A mobility preparation procedure of a VoIP call for radio reason is in progress and eNodeB sends a S1AP HANDOVER CANCEL message towards MME. This message is sent upon receipt of S1 AP HANDOVER COMMAND with no VoIP E-RAB admission. *Report group:* MobilityFailure
Subfamily	HO PS
Report group	Mandatory
3GPP name	VS.OutgoingPSHOToUtraFddAbort
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter doesn't take into account PS Handover to UTRA FDD during a CS fallback procedure. May be pegged by FRS 103892.

12793 - Outgoing PS handover to UTRA FDD preparation success

This counter provides the number of times that have been performed successfully from the cell.

Counter Information	Counter Value/Description
Counter Code	12793
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 HANDOVER COMMAND message is received from the MME.
Subcounters	Family of event that may trigger inter-RAT PS Handover to UTRA-FDD. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision. *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Refer to the common triggering event. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0) configured for radio or off-loading decision. *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2EcN0 *Triggering Event:* Refer to the common triggering event. *Report group:* GeranOrUtran *#2: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision. *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP *Triggering Event:* Refer to the common triggering event. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#3: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision.
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2EcN0
	Triggering Event: Refer to the common triggering event.
	Report group: GeranOrUtran
	#4: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_EcN0) configured for radio or off-loading decision.
	Suffix 3GPP: MeasurementViaEventB1AndThresholdEcN0
	Triggering Event: Refer to the common triggering event.
	Report group: GeranOrUtran
	#5: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_RSCP) configured for off-loading decision.
	Suffix 3GPP: MeasurementViaEventB1AndThresholdRSCP
	Triggering Event: Refer to the common triggering event.
	Report group: GeranOrUtran
Subfamily	HO PS
Report group	Mandatory
3GPP name	VS.OutgoingPSHOToUtraFddPreparationSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing PS handover partial failure, the Outgoing Inter-eNodeB S1 Mobility procedure is considered as successful when triggered for radio reason, this counter is pegged. Otherwise in case the trigger is off-loading, the mobility procedure is considered failed. This counter doesn't take into account PS Handover to UTRA FDD during a CS Fallback procedure.

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12794 - Evolved multi-carrier traffic allocation trigger

This counter provides the number of times that an eMCTA algorithm has been triggered in the source cell.

Counter Information	Counter Value/Description
Counter Code	12794
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the eMCTA algorithm is invoked by the call processing function.
Subcounters	Family of event that may trigger the eMCTA function.
	#0: Description: Event A2_CA (LTE serving becomes lower than threshold1_RSRP or threshold1_RSRQ: 'good-to-alarm' transition for the radio coverage conditions in the serving).
	Suffix 3GPP: EventA2CAForGoodToAlarmTransitionForRadioCoverage
	Triggering Event: Upon receipt of event A2_CA (LTE serving becomes lower than threshold1_RSRP or threshold1_RSRQ: 'good-to-alarm' transition for the radio coverage conditions in the serving).
	Report group: Mandatory
	#1: Description: This counter provides the number of times eMCTA is triggered to off-load a call to solve eNodeB congestion. This screening is used when congestion is detected by eNodeB reactive load control function.
	Suffix 3GPP: OffLoadingForReactiveLoadControl
	Triggering Event: Upon receipt of eMCTA off-load trigger for reactive load control.
	Report group: Mandatory
	#2: Description: eMCTA is triggered by preventive load control to off-load a call.
	Suffix 3GPP: OffLoadingForPreventiveLoadControl
	Triggering Event: Upon receipt of eMCTA off-load trigger for preventive load control.
	Report group: Mandatory
Subfamily	Common Mobility Management Framework
Report group	Mandatory
3GPP name	VS.EvolvedMultiCarrierTrafficAllocationTrigger

Counter Information	Counter Value/Description
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Outgoing PS handover resource allocation partial failure, the Outgoing Inter-eNodeB S1 Mobility preparation procedure is considered as successful: this counter is pegged if the handover execution is successful. May be pegged by FRS 103892.

12802 - Incoming intra-eNodeB handover attempt screened

This counter provides the number of times an inter-frequency intra-eNodeB handover procedure has been attempted towards the cell.

Counter Information	Counter Value/Description
Counter Code	12802
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a cell is selected by the eNodeB application as the target of a handover procedure, with the source cell hosted by the same eNodeB equipment.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IncomingIntraENodeBHOAttemptScreened
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	This counter is pegged only when the cell is received as a potential target for Handover through RRC measurement report received from the UE, and when the cell is eligible (that is, in a unlocked or available state).

12803 - Incoming intra-eNodeB handover success screened

This counter provides the number of times an inter-frequency intra-eNodeB handover procedure has been successfully performed towards the target cell.

Counter Information	Counter Value/Description
Counter Code	12803
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a RrcReconfigurationComplete message is received from the UE, indicating attachment to the target cell.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IncomingIntraENodeBHOSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Intra-eNodeB Handover partial failure, the Intra-eNodeB Handover procedure is considered as successful, this counter is pegged.

12806 - Outgoing inter-eNodeB X2 handover attempt screened

This counter provides the number of times an outgoing inter-eNodeB X2 inter-frequency handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12806
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the HANDOVER REQUEST message is sent to the target eNodeB.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOAttemptScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged only when the cell is received as a potential target for Handover through RRC measurement received from the UE, and when the cell is eligible that is, X2 link to the hosting eNodeB is available. May be pegged by FRS 103892.

12807 - Outgoing inter-eNodeB X2 handover success screened

This counter provides the number of times an outgoing inter-eNodeB X2 inter-frequency handover procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12807
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP UE CONTEXT RELEASE message is received from the target eNodeB.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing Inter-eNodeB X2 Handover resource allocation partial failure, the Outgoing Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is pegged if the handover execution is successful. May be pegged by FRS 103892. In case RRC Reestablishment success on the target eNodeB, the incoming HO is failed, but the outgoing HO is considered as successful, as the target eNodeB sends a X2AP UE Context release to the source eNodeB.

12810 - Incoming inter-eNodeB X2 handover attempt screened

This counter provides the number of times an incoming inter-eNodeB X2 inter-frequency handover procedure has been attempted to the cell.

Counter Information	Counter Value/Description
Counter Code	12810
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP HANDOVER REQUEST message is received from the source eNodeB.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOAttemptScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892.

12811 - Incoming inter-eNodeB X2 handover success screened

This counter provides the number of times that an incoming inter-eNodeB X2 handover procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12811
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP UE CONTEXT RELEASE message is sent to the source eNodeB and when the RrcConnectionReestablishmentRequest message is not received in the target cell.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB X2 Handover partial failure, the Incoming Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is pegged if the handover execution is successful. May be pegged by FRS 103892.

12812 - Outgoing emergency CS fallback PS handover to UTRA FDD attempt

This counter provides the number of times that an outgoing PS handover procedure has been attempted from the cell towards UTRA FDD for the purpose of emergency CS fallback.

Counter Information	Counter Value/Description
Counter Code	12812
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered - either on reception of RrcMeasurementReport message containing a UTRA FDD cell - or during an ongoing PS Handover, on reception of S1AP UE CONTEXT MODIFICATION REQUEST, CS Fallback Indicator = 'CS Fallback Required','Carrier (UTRAN) targeted for CSFB'equal ongoing PS HO target.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingEmergencyCsFallbackPSHOToUtraFddAttempt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12813 - Outgoing emergency CS fallback PS handover to UTRA FDD success

This counter provides the number of times that an outgoing emergency CS fallback PS handover procedure has been successfully performed from the cell towards UTRA FDD.

Counter Information	Counter Value/Description
Counter Code	12813
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of an S1AP UE Context Release Command message from the MME with cause 'Successful handover', after triggering a PS Handover to UTRA FDD for emergency CS fallback purposes.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingEmergencyCsFallbackPSHOToUtraFddSuccess
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing emergency CS fallback PS handover partial failure, the Outgoing emergency CS fallback PS Handover procedure is considered as successful, this counter is pegged.

12814 - Total outgoing emergency CS fallback PS handover to UTRA FDD failure

This counter provides the number of times that an outgoing emergency CS fallback PS handover procedure has been failed from the cell towards UTRA FDD.

Counter Information	Counter Value/Description
Counter Code	12814
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform. The following events indicate a handover failure to UTRA FDD: - S1AP Handover Preparation Failure received from the MME. - Expiration of TS1RelocPrepForPSHandoverToUtra timer. - Expiration of TS1RelocOverall timer. - Radio link failure detected by the eNodeB. Counter shall be pegged only in case Radio Link failure is detected before RrcHandoverFromEUTRACommand has been sent to the UE. - RRC Re-establishment in one of the cells of the eNodeB.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingEmergencyCsFallbackPSHOToUtraFddFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Outgoing emergency CS fallback PS Handover partial failure, the Outgoing emergency CS fallback PS Handover procedure is considered as successful, this counter is not pegged.

Mobility
12815 - Total outgoing emergency CS fallback PS handover
to UTRA FDD abort

12815 - Total outgoing emergency CS fallback PS handover to UTRA FDD abort

This counter provides the number of times that an outgoing emergency CS fallback PS handover to UTRA FDD procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12815
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event, that leads the eNodeB to abort the handover procedure. The following events leads to abort an handover to UTRA FDD: - S1AP UE Context Release Command received from the MME (with cause other than Successful Handover). - Expiration of maxTimeAllowedForCsfb-MobilityAttempt. - S1AP Reset received from the MME. - S1AP Reset eNodeB initiated. -'RrcMeasurementReport (Event A2) message received from the UE.
Subcounters	Not defined
Subfamily	CS fallback
Report group	GeranOrUtran
3GPP name	VS.OutgoingEmergencyCsFallbackPSHOToUtraFddAbortSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12816 - Emergency CS fallback cell change order to GERAN attempt

This counter provides the number of times a cell change order to GERAN procedure has been attempted from the cell for emergency CS fallback purposes.

Counter Information	Counter Value/Description
Counter Code	12816
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of RrcMeasurementReport message containing a GERAN cell.
Subcounters	Whether GERAN System Information is available for the target cell or not (NACC: Network Assisted Cell Change). *#0: Description:* GERAN System Information is available for the target cell. *Suffix 3GPP:* WithNACC *Triggering Event:* Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available. *Report group:* GeranOrUtran *#1: Description:* GERAN System Information is not available for the target cell. *Suffix 3GPP:* WithoutNACC *Triggering Event:* Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available. *Report group:* GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.EmergencyCsFallbackCCOToGeranAttempt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12817 - Emergency CS fallback cell change order to GERAN success

This counter provides the number of times a cell change order to GERAN procedure has been successfully performed from the cell for emergency CS fallback purposes.

Counter Information	Counter Value/Description
Counter Code	12817
Counter Type	CUMULATE
Triggering (Event)	This counter is triggerd on reception of an S1AP UE Context Release Command message from the MME or on expiration of TmobilityFromEutraCCO timer, after triggering a Cell Change Order to GERAN for CS fallback purposes.
Subcounters	Whether GERAN System Information is available for the target cell or not (NACC: Network Assisted Cell Change). *#0: Description:* GERAN System Information is available for the target cell. *Suffix 3GPP:* WithNACC *Triggering Event:* Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available. *Report group:* GeranOrUtran *#1: Description:* GERAN System Information is not available for the target cell. *Suffix 3GPP:* WithoutNACC *Triggering Event:* Reception of RrcMeasurementReport message containing a GERAN cell for which System Information is available. *Report group:* GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.EmergencyCsFallbackCCOToGeranSuccess
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12818 - Total emergency CS fallback cell change order to GERAN failure

This counter provides the number of times a cell change order to GERAN procedure from the cell for emergency CS fallback has failed.

Counter Information	Counter Value/Description
Counter Code	12818
Counter Type	CUMULATE
Triggering (Event)	Any failure making impossible to perform cell change order without NACC to GERAN. The following events indicate a Cell Change Order failure: - RRC Re-establishment in one of the cells of the eNodeB if it occurs after RrcHandoverFromEUTRACommand has been sent to the UE.
Subcounters	Whether GERAN System Information is available for the target cell or not (NACC: Network Assisted Cell Change). *#0: Description:* Total cell change order with NACC to GERAN failure: Number of times a cell change order with NACC to GERAN procedure from the cell has failed. *Suffix 3GPP:* WithNACC *Triggering Event:* Please refer to common triggering event. *Report group:* GeranOrUtran *#1: Description:* Total cell change order without NACC to GERAN failure: Number of times a cell change order without NACC to GERAN procedure from the cell has failed. *Suffix 3GPP:* WithoutNACC *Triggering Event:* Please refer to common triggering event. *Report group:* GeranOrUtran
Subfamily	Cell Change Order
Report group	Mandatory
3GPP name	VS.EmergencyCsFallbackCCOToGeranFailureSum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12820 - Outgoing inter-eNodeB S1 handover attempt screened

This counter provides the number of times that an outgoing inter-eNodeB S1 inter-frequency handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12820
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1 HANDOVER REQUIRED message is sent to the MME.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOAttemptScreened
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	This counter is pegged only when the target cell is received as a potential target for Handover through RRC measurement report received from the UE, and when the cell is a known neighbour, that is, the eNodeB has its ECGI and TAC. May be pegged by FRS 103892.

12821 - Outgoing inter-eNodeB S1 handover success screened

This counter provides the number of times that an outgoing inter-eNodeB S1 inter-frequency handover procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12821
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 UE CONTEXT RELEASE COMMAND message with cause as Successful handover is received from the MME.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	The S1 UE CONTEXT RELEASE COMMAND should reach the source eNodeB before TS1RELOCoverall expiry. In case of Outgoing Inter-eNodeB S1 handover resource allocation partial failure, the outgoing Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is pegged if the handover execution is successful. May be pegged by FRS 103892. In case RRC Reestablishment success on the target eNodeB, the incoming HO is failed, but the outgoing HO is considered as successful, as the target eNodeB sends a Handover notify to the MME and the MME sends a S1 UE CONTEXT RELEASE COMMAND to the the source eNodeB.

12822 - Outgoing intra-eNodeB inter-PLMN handover attempt

This counter provides the number of times an intra-eNodeB handover inter-PLMN procedure has been attempted from the source cell.

Counter Information	Counter Value/Description
Counter Code	12822
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a cell hosted by the same eNodeB equipment has been elected by the eNodeB application as being the target of a handover procedure, from this source cell and the target PLMN is not the source PLMN.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.OutgoingIntraENodeBInterPlmnHOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged only in case: The target cell has been received as a potential target for Handover through RRC measurement received from the UE, The target cell is eligible (unlocked, available), the target PLMN is not the source PLMN.

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12823 - Outgoing inter-eNodeB inter-PLMN X2 handover attempt

This counter provides the number of times an outgoing inter-eNodeB inter-PLMN X2 handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12823
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the HANDOVER REQUEST message is sent to the target eNodeB and the target PLMN is not the source PLMN.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBInterPlmnX2HOAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter is pegged only when the cell is received as a potential target for Handover through RRC measurement received from the UE, and when the cell is eligible that is, X2 link to the hosting eNodeB is available and the target PLMN is not the source PLMN.

12824 - Incoming inter-eNodeB S1 handover attempt screened

This counter provides the number of times that an incoming inter-eNodeB S1 inter-frequency handover procedure has been attempted to the cell.

Counter Information	Counter Value/Description
Counter Code	12824
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1AP HANDOVER REQUEST message is received from the MME.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOAttemptScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892

12825 - Incoming inter-eNodeB S1 handover success screened

This counter provides the number of times that an incoming inter-eNodeB S1 handover procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12825
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RRC Connection Reconfiguration Complete (HO complete) message is received from UE, and S1AP MME Status Transfer (if there is at least one E-RAB for which SN preservation applies) message is received from the MME.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB S1 handover resource allocation partial failure, the incoming Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is pegged if the handover execution is successful May be pegged by FRS 103892.

12826 - Outgoing SRVCC to UTRA FDD attempt

This counter provides the number of times a SRVCC to UTRA-FDD procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12826
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1AP HANDOVER REQUIRED message is sent to the MME with 'SRVCC HO Indication' set to 'CS only' or 'PS and CS'.
Subcounters	Family of event that may trigger inter-RAT SRVCC to UTRA-FDD.
	#0: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#1: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRPThreshold2EcN0
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision.
	Report group: GeranOrUtran

Counter Information	Counter Value/Description
	#2: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#3: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2EcN0
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#4: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_RSCP) configured upon off-loading decision.
	Suffix 3GPP: MeasurementViaEventB1AndThresholdRSCP
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_RSCP).
	Report group: GeranOrUtran
	#5: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_EcN0) configured for off-loading decision.
	Suffix 3GPP: MeasurementViaEventB1AndThresholdEcN0
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_EcN0).
	Report group: GeranOrUtran
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraFddAttempt
Object Class	CellPLMN

Counter Information	Counter Value/Description
Range	0 to $2^{32}-1$
Unit	EVENT

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12827 - Outgoing SRVCC to UTRA FDD success

This counter provides the number of times that an outgoing SRVCC to UTRA-FDD procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12827
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP UE CONTEXT RELEASE COMMAND message with cause Successful handover is received from the MME.
Subcounters	Family of event that may trigger inter-RAT SRVCC to UTRA-FDD. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2EcN0 *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#2: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#3: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2EcN0
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) configured for radio or off-loading decision.
	Report group: GeranOrUtran
	#4: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_RSCP)
	Suffix 3GPP: MeasurementViaEventB1AndThresholdRSCP
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_RSCP) configured for off-loading purpose.
	Report group: GeranOrUtran
	#5: Description: Event B1 (UTRA-FDD neighbour becomes higher than threshold_EcN0)
	Suffix 3GPP: MeasurementViaEventB1AndThresholdEcN0
	Triggering Event: Upon event B1 (inter RAT UTRA-FDD neighbour becomes higher than threshold_EcN0) configured for off-loading purpose.
	Report group: GeranOrUtran
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraFddSuccess

Counter Information	Counter Value/Description
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT

12828 - Total outgoing SRVCC to UTRA FDD failure

This counter provides the number of times that an outgoing SRVCC to UTRA-FDD procedure has been failed from the cell.

Counter Information	Counter Value/Description
Counter Code	12828
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	SRVCC
Report group	GeranOrUtran
3GPP name	VS.OutgoingSrvccToUtraFddFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12829 - Outgoing SRVCC to UTRA FDD failure

This counter provides the number of times that an outgoing SRVCC to UTRA-FDD procedure has been failed from the cell for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12829
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: Handover preparation failure.
	Suffix 3GPP: HOPreparationFailure
	Triggering Event: S1AP HANDOVER PREPARATION FAILURE received from the MME.
	Report group: MobilityFailure
	#1: Description: TS1RelocPrepForSrvccToUtra timeout.
	Suffix 3GPP: TS1RelocPrepForSrvccToUtraTimeout
	Triggering Event: Expiration of TS1RelocPrepForSrvccHandoverToUtra timer, supervising the Handover preparation procedure (that is, no answer from the MME).
	Report group: MobilityFailure
	#3: Description: RRC connection re-establishment On the source cell: reception of RrcConnectionReestablishmentRequest in the source cell.
	Suffix 3GPP: RRCConnectionReestablishmentOnSourceCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest.
	Report group: MobilityFailure
	#4: Description: RRC connection re-establishment on another cell: reception of RrcConnectionReestablishmentRequest in another cell.
	Suffix 3GPP: RRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#5: Description: TS1RelocOverallForSrvccHandoverToUtratimeout.
	Suffix 3GPP: TS1RelocOveralForSrvccToUtraTimeout
	Triggering Event: Expiration of tS1RelocOverallForSrvccHandoverToUtra timer, supervising Handover execution procedure (that is, no S1AP UE CONTEXT RELEASE COMMAND from the MME).
	Report group: MobilityFailure
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraFddFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12830 - Total outgoing SRVCC to UTRA FDD abort

This counter provides the number of times that an outgoing SRVCC to UTRA FDD procedure from the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12830
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	SRVCC
Report group	GeranOrUtran
3GPP name	VS.OutgoingSrvccToUtraFddAbortSum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12831 - Outgoing SRVCC to UTRA FDD abort

This counter provides the number of times that an outgoing SRVCC to UTRA FDD procedure has been aborted from the cell.

Counter Information	Counter Value/Description
Counter Code	12831
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event. *#0: Description:* S1AP UE Context Release Command received from the MME (with cause other than Successful Handover). *Suffix 3GPP:* S1APUEContextReleaseCommand *Triggering Event:* S1AP UE Context Release Command received from the MME. *Report group:* MobilityFailure *#1: Description:* Reception of RrcMeasurementReport (measId configured for handover trigger) triggering a cascaded handover during SRVCC to UTRA FDD procedure. *Suffix 3GPP:* CascadedHandover *Triggering Event:* Reception of RrcMeasurementReport (measId configured for handover trigger). *Report group:* MobilityFailure *#2: Description:* S1AP Reset received from the MME or S1AP Reset eNodeB initiated. *Suffix 3GPP:* Other *Triggering Event:* S1AP Reset received from the MME or S1AP Reset eNodeB initiated. *Report group:* MobilityFailure *#3: Description:* Handover preparation cancelled upon reception of A1 event (leaving alarm conditions). *Suffix 3GPP:* EventA1 *Triggering Event:* Reception of A1 event (leaving alarm conditions). *Report group:* MobilityFailure

Counter Information	Counter Value/Description
	#4: Description: An off-loading mobility preparation procedure is in progress. Upon no voice bearer is admitted by target or upon triggering a procedure having higher priority, the Handover is aborted by source eNodeB.
	Suffix 3GPP: Offloading
	Triggering Event: An off-loading mobility preparation procedure is in progress and eNodeB sends a S1AP HANDOVER CANCEL message towards MME. This message is sent upon receipt of S1 AP HANDOVER COMMAND with partial admitted E-RAB (without QCI1 bearer admitted) or upon triggering of a procedure having higher priority.
	Report group: MobilityFailure
	#5: Description: Decision to perform a CS fallback.
	Suffix 3GPP: CsFallback
	Triggering Event: Decision to perform a CS fallback.
	Report group: MobilityFailure
	#6: Description: A mobility preparation procedure with radio triger is in progress. Upon no voice bearer is admitted by target or upon triggering a procedure having higher priority, the Handover is aborted by source eNodeB.
	Suffix 3GPP: VoIPBearerNonAdmission
	Triggering Event: A mobility preparation procedure with radio triger is in progress and eNodeB sends a S1AP HANDOVER CANCEL message towards MME. This message is sent upon receipt of S1 AP HANDOVER COMMAND with partial admitted E-RAB (without QCI1 bearer admitted) or upon triggering of a procedure having higher priority.
	Report group: MobilityFailure
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraFddAbort
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12832 - Total outgoing inter-eNodeB X2 handover abort screened

This counter provides the number of times an outgoing inter-eNodeB X2 inter-frequency handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12832
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOAbortScreenedSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892 and by FRS 115685.

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12833 - Outgoing inter-eNodeB inter-PLMN S1 handover attempt

This counter provides the number of times that an outgoing inter-eNodeB inter-PLMN S1 handover procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12833
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1 HANDOVER REQUIRED message is sent to the MME and the target PLMN is not the source PLMN.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBInterPlmnS1HOAttempt
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	This counter is pegged only when the target cell is received as a potential target for Handover through RRC measurement report received from the UE, and when the cell is a known neighbour, that is, the eNodeB has its ECGI and TAC, and the target PLMN is not the source PLMN.

12834 - Total incoming inter-eNodeB X2 handover abort screened

This counter provides the number of times that an incoming inter-eNodeB X2 inter-frequency handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12834
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOAbortScreenedSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892 and by FRS 115685.

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12835 - Outgoing SRVCC to UTRA FDD failure per handover reason

This counter provides the number of times that an outgoing SRVCC to UTRA-FDD procedure has been failed.

Counter Information	Counter Value/Description
Counter Code	12835
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Handover reason.
	#0: Description: SRVCC to UTRA-FDD was triggered for radio reason
	Suffix 3GPP: Radio
	Triggering Event: Refer to the common triggering event.
	Report group: MobilityFailure
	#1: Description: SRVCC to UTRA-FDD was triggered for off-loading reason upon eNodeB reactive load control decision.
	Suffix 3GPP: OffLoadTriggered
	Triggering Event: Refer to the common triggering event.
	Report group: MobilityFailure
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraFddFailurePerHOReason
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12836 - Total outgoing inter-eNodeB S1 handover abort screened

This counter provides the number of times that an outgoing inter-eNodeB S1 inter-frequency handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12836
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any any event that interrupts the handover.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOAbortScreenedSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged by FRS 103892 and in LA5.0 FRS 115685.

12837 - Outgoing intra-eNodeB inter-PLMN handover success

This counter provides the number of times an intra-eNodeB handover procedure has been
successfully performed from the source cell towards another PLMN.

Counter Information	Counter Value/Description
Counter Code	12837
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RrcReconfigurationComplete message is received from the UE, indicating attachment to the target cell and the target PLMN is not the source PLMN.
Subcounters	Not defined
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.OutgoingIntraENodeBInterPlmnHOSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12838 - Outgoing inter-eNodeB inter-PLMN X2 handover success

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure has been successfully performed from the cell to another PLMN.

Counter Information	Counter Value/Description
Counter Code	12838
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP UE CONTEXT RELEASE message is received from the target eNodeB and the target PLMN is not the source PLMN.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBInterPlmnX2HOSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12839 - Outgoing inter-eNodeB inter-PLMN S1 handover success

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure has been successfully performed from the cell to another PLMN.

Counter Information	Counter Value/Description
Counter Code	12839
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 UE CONTEXT RELEASE COMMAND message with cause as Successful handover is received from the MME and the target PLMN is not the source PLMN.
Subcounters	Not defined
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBInterPlmnS1HOSuccess
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12840 - Outgoing SRVCC to UTRA TDD failure per handover reason

This counter provides the number of times that an outgoing SRVCC to UTRA-TDD procedure has been failed.

Counter Information	Counter Value/Description
Counter Code	12840
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Handover reason. *#0: Description:* SRVCC to UTRA-TDD was triggered for radio reason *Suffix 3GPP:* Radio *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure *#1: Description:* SRVCC to UTRA-TDD was triggered for off-loading reason upon eNodeB reactive load control decision. *Suffix 3GPP:* OffLoadTriggered *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraTddFailurePerHOReason
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12842 - Total intra-eNodeB handover abort screened

This counter provides the number of times an inter-frequency intra-eNodeB handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12842
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Frequency of serving cell and target cell.
	#0: Description: Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency.
	Suffix 3GPP: InterFreqSameFrameStructure
	Triggering Event: Refer to the common triggering event.
	Report group: Mandatory
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IntraENodeBHOAbortScreenedSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be also pegged in LA5.0 FRS 115685.

12843 - Total incoming inter-eNodeB S1 handover abort screened

This counter provides the number of times that an incoming inter-eNodeB S1 inter-frequency handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12843
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOAbortScreenedSum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	May be pegged by FRS 103892 and by FRS 115685.

12845 - Outgoing intra-eNodeB handover attempt screened

This counter provides the number of times an inter-frequency intra-eNodeB handover procedure has been attempted from the source cell.

Counter Information	Counter Value/Description
Counter Code	12845
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a cell hosted by the same eNodeB equipment has been elected by the eNodeB application as being the target of a handover procedure, from this source cell.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.OutgoingIntraENodeBHOAttemptScreened
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	This counter is pegged only in case: The target cell has been received as a potential target for Handover through RRC measurement received from the UE, The target cell is eligible (unlocked, available).

12846 - Outgoing intra-eNodeB handover success screened

This counter provides the number of times an inter-frequency intra-eNodeB handover procedure has been successfully performed from the source cell.

Counter Information	Counter Value/Description
Counter Code	12846
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RrcReconfigurationComplete message is received from the UE, indicating attachment to the target cell.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.OutgoingIntraENodeBHOSuccessScreened
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Intra-eNodeB Handover partial failure, the Intra-eNodeB Handover procedure is considered as successful, this counter is pegged.

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12851 - Redirection to 1xRTT

This counter provides the number of redirections including CS fallback to 1xRTT technology that are performed due to a bad signal measured by the UE in the serving cell or reception of 1xCSFB request from the MME.

Counter Information	Counter Value/Description
Counter Code	12851
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RrcConnectionRelease message is sent to the UE. In the LTE-to-1xRTT PS redirection case (76499), this message contains redirectedCarrierInfo IE populated with 1xRTT info provisioned on the cell, and follows the Event A2 (blind) or Event B2 measurement received. This indicates that the signal in the serving cell is worse than the threshold level. In the CS fallback to 1xRTT case (92024), this message does not contain the (optional) redirectedCarrierInfo IE, that is, it is just RRC Connection Release.
Subcounters	Family of event that may trigger inter-RAT redirection/CS fallback to 1xRTT, GPS state and UE capability. *#6: Description:* Both regular and emergency CS Fallback triggered. *Suffix 3GPP:* CsFallbackTriggered *Triggering Event:* This screening is triggered when the eNode B sends RRC Connection Release to the UE due to its decision to perform CS fallback to 1xRTT. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of 1xRTT as the target technology for CS fallback is driven by92024 feature activation. *Report group:* HRPDOr1xRTT

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Counter Information	Counter Value/Description
	#7: Description: Emergency Cs fallback triggered.
	Suffix 3GPP: EmergencyCsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B ends RRC Connection Release to the UE due to its decision to perform the CS fallback to 1xRTT for emergency call. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE, where the IE is equal to 'CSFB High Priority' or the preceding RRC connection was setup with establishmentCause = 'emergency'. Choice of 1xRTT as the target technology for emergency CS fallback is driven by 92024 feature activation.
	Report group: HRPDOr1xRTT
Subfamily	Redirection
Report group	Mandatory
3GPP name	VS.RedirectionTo1xRtt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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Counter Information	Counter Value/Description
Notes	Information available in LA4.0 through UPOS traces. (1) The separate DR-UE and SR-UE screenings provide profile info of UEs involved in LTE-to-1xRTT mobility. (2) Sync-mode in SIB8 allows UEs to perform 1xRTT measurements and reporting more promptly than the aysnc-mode counterpart. The (relative) sluggishness of the latter could contribute to a small increase in RLF when compared to the former. (3) If dual-receiver UEs dominate, i.e. (12851-1 + 12851-3) is much greater than (12851-2 + 12851-4), and if the ratio of 12851 to (12851-1 + 12851-3 + 12851-2 + 12851-4 + 12851 is realtively large, it may imply that UEs did not have enough time to perform B2 measurements. In this case, consider changing measurementUponCellEntry to 'when-MG-not-required' (L103891). Similarly, if single-receiver UEs dominate and the ratio above is relatively large, consider changing measurementUponCellEntry to 'always'. (4) 12311-0 is pegged if RRC connection setup is due to emergency, which can be either emergency CSFB or emergency IMS VoIP. (5) For an emergency CSFB initiated by an idle UE where the RRC connection was setup with establishmentCause = 'emergency', the CSFB call is not subject to preemption (e.g. no pegging of 12505-16), and this is true even after the reception of Initial Context Setup Request containing the CSFB Indicator IE not euqal to 'CSFB High Priority'.

12853 - CS fallback request

This counter provides the number of times that the eNodeB has received a request from UE (via MME) to perform the procedure of CS fallback.

Counter Information	Counter Value/Description
Counter Code	12853
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of S1AP Initial UE Context Setup Request or UE Context Modification Request with the CSFB Indicator IE from the MME.
Subcounters	UE State and Emergency call *#0: Description:* UE in RRC idle requests CSFB after RRC connection setup because either eNodeB or MME indicates the CSFB support for a non-emergency call. *Suffix 3GPP:* IdleUENonEmergency *Triggering Event:* S1AP Initial UE Context Setup Request with CSFB Indicator is received from the MME for a non-emergency call. *Report group:* Mandatory *#1: Description:* UE in RRC connected requests CSFB because either eNodeB or MME indicates the CSFB support for a non-emergency call. *Suffix 3GPP:* ActiveUENonEmergency *Triggering Event:* S1AP UE Context Modification Request with CSFB Indicator is received from the MME for a non-emergency call. *Report group:* Mandatory *#2: Description:* UE in RRC idle requests CSFB after RRC connection setup because either eNodeB or MME indicates the CSFB support for an emergency call. *Suffix 3GPP:* IdleUEEmergency *Triggering Event:* S1AP Initial UE Context Setup Request with CSFB Indicator is received from the MME for an emergency call. *Report group:* Mandatory

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Counter Information	Counter Value/Description
	#3: Description: UE in RRC connected requests CSFB because either eNodeB or MME indicates the CSFB support for an emergency call. *Suffix 3GPP:* ActiveUEEmergency *Triggering Event:* S1AP UE Context Modification Request with CSFB Indicator is received from the MME for an emergency call. *Report group:* Mandatory
Subfamily	CS fallback
Report group	Mandatory
3GPP name	VS.CsFallbackRequest
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Activations of CSFB to 1xRTT and CSFB to UTRAN/GERAN are mutually exclusive on the eNodeB. While the support of the former is indicated to UEs by eNodeB via 1xCSFB capability in SIB8, the support of the latter is indicated to UEs by MME via 'combined attach' success.

12858 - Enhanced redirection to UTRA FDD

This counter provides the number of times that the procedure for an inter-RAT enhanced redirection to UTRA-FDD is required.

Counter Information	Counter Value/Description
Counter Code	12858
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an event receives an inter-RAT enhanced redirection to UTRA-FDD.
Subcounters	Family of event that may trigger inter-RAT enhanced redirection to UTRA-FDD. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) when failing to perform a PS Handover to UTRAN. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_EcN0). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2EcN0 *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) when failing to perform a PS Handover to UTRAN. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#2: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_RSCP) when failing to perform a PS Handover to UTRAN.
	Report group: GeranOrUtran
	#3: Description: Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0).
	Suffix 3GPP: MeasurementViaEventB2AndThreshold1RSRQThreshold2EcN0
	Triggering Event: Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT UTRA-FDD neighbour becomes higher than threshold2_ EcN0) when failing to perform a PS Handover to UTRAN.
	Report group: GeranOrUtran
	#4: Description: Both regular and emergency CS Fallback triggered.
	Suffix 3GPP: CsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the enhanced redirection to UTRAN. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of UTRAN as the target technology for CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the enhanced redirection to UTRAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran

Counter Information	Counter Value/Description
	#5: Description: Emergency CS fallback Triggered.
	Suffix 3GPP: EmergencyCsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the enhanced redirection to UTRAN for emergency call. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of UTRAN as the target technology for emergency CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the enhanced redirection to UTRAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran
	#6: Description: Off-load triggered upon eNodeB congestion detection. The redirection may be either measurement based using B1 (or B2 as fallback) or in blind mode.
	Suffix 3GPP: OffLoadTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to UTRAN for off-load reason to solve eNodeB congestion.
	Report group: GeranOrUtran
Subfamily	Redirection
Report group	Mandatory
3GPP name	VS.EnhancedRedirectionToUtraFdd
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Screenings 0 to 3 shall not be pegged when redirection is triggered by off-load decision (FRS 103892).

12859 - Enhanced redirection to GERAN

This counter provides the number of times that the procedure for an inter-RAT enhanced redirection to GERAN is required.

Counter Information	Counter Value/Description
Counter Code	12859
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an event has been received for an inter-RAT enhanced redirection to GERAN.
Subcounters	Family of event that may trigger inter-RAT enhanced redirection to GERAN. *#0: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT GERAN neighbour becomes higher than threshold2_GERAN). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2GERAN *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRP and inter RAT GERAN neighbour becomes higher than threshold2_GERAN) and no CS fallback procedure is on-going. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT GERAN neighbour becomes higher than threshold2_GERAN). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRQThreshold2GERAN *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes lower than threshold1_RSRQ and inter RAT GERAN neighbour becomes higher than threshold2_ GERAN) and no CS fallback procedure is on-going. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
	#2: Description: Both regular and emergency CS Fallback triggered.
	Suffix 3GPP: CsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the enhanced redirection to GERAN. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of GERAN as the target technology for CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the enhanced redirection to GERAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran
	#3: Description: Emergency CS fallback Triggered.
	Suffix 3GPP: EmergencyCsFallbackTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the enhanced redirection to GERAN for emergency call. The eNodeB receives an S1AP Initial Context Setup Request or S1AP UE Context Modification Request containing the CsFallbackIndicator IE. Choice of GERAN as the target technology for emergency CS fallback is driven by UE capabilities and operator preferences. The eNodeB may trigger the enhanced redirection to GERAN: - immediately upon reception of the Initial Context Setup Request or UE Context Modification Request - or as a fallback procedure, in different failure scenarios.
	Report group: GeranOrUtran
	#4: Description: Off-load triggered upon eNodeB congestion detection. The redirection may be either measurement based using B1 (or B2 as fallback) or in blind mode.
	Suffix 3GPP: OffLoadTriggered
	Triggering Event: This screening is triggered when the eNode B makes the decision to perform the redirection to GERAN for off-load reason to solve eNodeB congestion.
	Report group: GeranOrUtran
Subfamily	Redirection
Report group	Mandatory
3GPP name	VS.EnhancedRedirectionToGeran

Counter Information	Counter Value/Description
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12860 - Outgoing SRVCC to UTRA TDD attempt

This counter provides the number of times a SRVCC to UTRA-TDD procedure has been attempted from the cell.

Counter Information	Counter Value/Description
Counter Code	12860
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when S1AP HANDOVER REQUIRED message is sent to the MME with 'SRVCC HO Indication' set to 'CS only' or 'PS and CS'.
Subcounters	Family of event that may trigger inter-RAT SRVCC to UTRA-TDD. *#0: Description:* Event B2 (LTE Serving becomes worse than threshold1_RSRP AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRP AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP) configured for radio or off-loading decision. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes worse than threshold1_RSRQ AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRQ AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP) configured for radio or off-loading decision. *Report group:* GeranOrUtran *#2: Description:* Event B1 (UTRA-TDD neighbour becomes higher than threshold_P-CCPCH_RSCP) configured upon off-loading decision. *Suffix 3GPP:* MeasurementViaEventB1AndThresholdRSCP *Triggering Event:* Upon event B1 (inter RAT UTRA-TDD neighbour becomes higher than threshold_P-CCPCH_RSCP). *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraTddAttempt
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12861 - Outgoing SRVCC to UTRA TDD success

This counter provides the number of times that an outgoing SRVCC to UTRA-TDD procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12861
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP UE CONTEXT RELEASE COMMAND message with cause Successful handover is received from the MME.
Subcounters	Family of event that may trigger inter-RAT SRVCC to UTRA-TDD. *#0: Description:* Event B2 (LTE Serving becomes worse than threshold1_RSRP AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRPThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRP AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP) configured for radio or off-loading decision. *Report group:* GeranOrUtran *#1: Description:* Event B2 (LTE Serving becomes worse than threshold1_RSRQ AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP). *Suffix 3GPP:* MeasurementViaEventB2AndThreshold1RSRQThreshold2RSCP *Triggering Event:* Upon receipt of event B2 (LTE Serving becomes worse than threshold1_RSRQ AND Neighbour becomes better than threshold2_ P-CCPCH_RSCP) configured for radio or off-loading decision. *Report group:* GeranOrUtran *#2: Description:* Event B1 (UTRA-TDD neighbour becomes higher than P-CCPCH_RSCP) *Suffix 3GPP:* MeasurementViaEventB1AndThresholdRSCP *Triggering Event:* Upon event B1 (inter RAT UTRA-TDD neighbour becomes higher than P-CCPCH_RSCP) configured for off-loading purpose. *Report group:* GeranOrUtran

Counter Information	Counter Value/Description
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraTddSuccess
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT

12862 - Total outgoing SRVCC to UTRA TDD failure

This counter provides the number of times that an outgoing SRVCC to UTRA-TDD procedure has been failed from the cell.

Counter Information	Counter Value/Description
Counter Code	12862
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	SRVCC
Report group	GeranOrUtran
3GPP name	VS.OutgoingSrvccToUtraTddFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12863 - Outgoing SRVCC to UTRA TDD failure

This counter provides the number of times that an outgoing SRVCC to UTRA-TDD procedure has been failed from the cell for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12863
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: Handover preparation failure.
	Suffix 3GPP: HOPreparationFailure
	Triggering Event: S1AP HANDOVER PREPARATION FAILURE received from the MME.
	Report group: MobilityFailure
	#1: Description: TS1RelocPrepForSrvccToUtra timeout.
	Suffix 3GPP: TS1RelocPrepForSrvccToUtraTimeout
	Triggering Event: Expiration of TS1RelocPrepForSrvccHandoverToUtra timer, supervising the Handover preparation procedure (that is, no answer from the MME).
	Report group: MobilityFailure
	#3: Description: RRC connection re-establishment On the source cell: reception of RrcConnectionReestablishmentRequest in the source cell.
	Suffix 3GPP: RRCConnectionReestablishmentOnSourceCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest.
	Report group: MobilityFailure
	#4: Description: RRC connection re-establishment on another cell: reception of RrcConnectionReestablishmentRequest in another cell.
	Suffix 3GPP: RRCConnectionReestablishmentOnOtherCell
	Triggering Event: Reception of RrcConnectionReestablishmentRequest.
	Report group: MobilityFailure

Counter Information	Counter Value/Description
	#5: Description: TS1RelocOverallForSrvccHandoverToUtratimeout. *Suffix 3GPP:* TS1RelocOveralForSrvccToUtraTimeout *Triggering Event:* Expiration of tS1RelocOverallForSrvccHandoverToUtra timer, supervising Handover execution procedure (that is, no S1AP UE CONTEXT RELEASE COMMAND from the MME). *Report group:* MobilityFailure
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraTddFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12864 - Total outgoing SRVCC to UTRA TDD abort

This counter provides the number of times that an outgoing SRVCC to UTRA TDD procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12864
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Not defined
Subfamily	SRVCC
Report group	GeranOrUtran
3GPP name	VS.OutgoingSrvccToUtraTddAbortSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12865 - Outgoing SRVCC to UTRA TDD abort

This counter provides the number of times that an outgoing SRVCC to UTRA TDD procedure has been aborted from the cell.

Counter Information	Counter Value/Description
Counter Code	12865
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Event.
	#0: Description: S1AP UE Context Release Command received from the MME (with cause other than Successful Handover).
	Suffix 3GPP: S1APUEContextReleaseCommand
	Triggering Event: S1AP UE Context Release Command received from the MME.
	Report group: MobilityFailure
	#1: Description: Reception of RrcMeasurementReport (measId configured for handover trigger) triggering a cascaded handover during SRVCC to UTRA TDD procedure.
	Suffix 3GPP: CascadedHandover
	Triggering Event: Reception of RrcMeasurementReport (measId configured for handover trigger).
	Report group: MobilityFailure
	#2: Description: S1AP Reset received from the MME or S1AP Reset eNodeB initiated.
	Suffix 3GPP: Other
	Triggering Event: S1AP Reset received from the MME or S1AP Reset eNodeB initiated.
	Report group: MobilityFailure
	#3: Description: Handover preparation cancelled upon reception of A1 event (leaving alarm conditions).
	Suffix 3GPP: EventA1
	Triggering Event: Reception of A1 event (leaving alarm conditions).
	Report group: MobilityFailure

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Counter Information	Counter Value/Description
	#4: Description: An off-loading mobility preparation procedure is in progress. Upon no voice bearer is admitted by target or upon triggering a procedure having higher priority, the Handover is aborted by source eNodeB.
	Suffix 3GPP: Offloading
	Triggering Event: An off-loading mobility preparation procedure is in progress and eNodeB sends a S1AP HANDOVER CANCEL message towards MME. This message is sent upon receipt of S1 AP HANDOVER COMMAND with partial admitted E-RAB (without QCI1 bearer admitted) or upon triggering of a procedure having higher priority.
	Report group: MobilityFailure
	#5: Description: Decision to perform a CS fallback.
	Suffix 3GPP: CsFallback
	Triggering Event: Decision to perform a CS fallback.
	Report group: MobilityFailure
	#6: Description: A mobility preparation procedure with radio triger is in progress. Upon no voice bearer is admitted by target or upon triggering a procedure having higher priority, the Handover is aborted by source eNodeB.
	Suffix 3GPP: VoIPBearerNonAdmission
	Triggering Event: A mobility preparation procedure with radio triger is in progress and eNodeB sends a S1AP HANDOVER CANCEL message towards MME. This message is sent upon receipt of S1 AP HANDOVER COMMAND with partial admitted E-RAB (without QCI1 bearer admitted) or upon triggering of a procedure having higher priority.
	Report group: MobilityFailure
Subfamily	SRVCC
Report group	Mandatory
3GPP name	VS.OutgoingSrvccToUtraTddAbort
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12866 - Intra-eNodeB handover preparation success screened

This counter provides the number of times an inter-frequency intra-eNodeB handover preparation procedure has been successfully performed from the source cell.

Counter Information	Counter Value/Description
Counter Code	12866
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when a RrcConfigurationReconfiguration message is sent to the UE.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Intra-eNodeB
Report group	Mandatory
3GPP name	VS.IntraENodeBHOPreparationSuccessScreened
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	iI case of Intra-eNodeB Handover partial failure, the Intra-eNodeB Handover procedure is considered as successful, this counter is pegged.

12867 - Outgoing inter-eNodeB X2 handover preparation success screened

This counter provides the number of times an inter-frequency outgoing inter-eNodeB X2 handover preparation procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12867
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP HANDOVER REQUEST ACKNOWLEDGE message is received from the target eNodeB.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOPreparationSuccessScreened
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In case of Outgoing Inter-eNodeB X2 Handover resource allocation partial failure, the Outgoing Inter-eNodeB X2 Handover preparation procedure is considered as successful, this counter is pegged. May be pegged by FRS 103892.

12868 - Incoming inter-eNodeB X2 handover preparation success screened

This counter provides the number of times that an incoming inter-eNodeB X2 inter-frequency handover preparation procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12868
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the X2AP HANDOVER REQUEST ACKNOWLEDGE message is sent to source cell.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBX2HOPreparationSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB X2 Handover resource allocation partial failure, the Incoming Inter-eNodeB X2 preparation Handover procedure is considered as successful, this counter is pegged. May be pegged by FRS 103892.

12869 - Outgoing inter-eNodeB S1 handover preparation success screened

This counter provides the number of times that an outgoing inter-eNodeB S1 inter-frequency handover preparation procedure has been successfully performed from the cell.

Counter Information	Counter Value/Description
Counter Code	12869
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 HANDOVER COMMAND message is received from the MME.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOPreparationSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	in case of Outgoing Inter-eNodeB S1 Handover resource allocation partial failure, the Outgoing Inter-eNodeB S1 Handover preparation procedure is considered as successful, this counter is pegged. May be pegged by FRS 103892.

12870 - Incoming inter-eNodeB S1 handover preparation success screened

This counter provides the number of times that an incoming inter-eNodeB S1 inter-frequency handover preparation procedure has been successfully performed to the cell.

Counter Information	Counter Value/Description
Counter Code	12870
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1 HANDOVER REQUEST ACKNOWLEDGE message is sent to the MME.
Subcounters	Frequency of serving cell and target cell. *#0: Description:* Frequency of serving cell and target cell are different, but both are FDD frequency, or TDD frequency. *Suffix 3GPP:* InterFreqSameFrameStructure *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.IncomingInterENodeBS1HOPreparationSuccessScreened
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	In case of Incoming Inter-eNodeB S1 handover resource allocation partial failure, the incoming Inter-eNodeB S1 Mobility preparation procedure is considered as successful, this counter is pegged if the handover execution is successful. May be pegged by FRS 103892.

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12889 - Outgoing PS handover to UTRA FDD failure per handover reason

This counter provides the number of times that an outgoing PS handover procedure has been failed from the cell.

Counter Information	Counter Value/Description
Counter Code	12889
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes handover impossible to perform.
Subcounters	Handover reason. *#0: Description:* Handover was triggered for radio reason *Suffix 3GPP:* Radio *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure *#1: Description:* Handover was triggered for off-loading reason upon eNodeB reactive load control decision. *Suffix 3GPP:* OffLoadTriggered *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure
Subfamily	HO PS
Report group	Mandatory
3GPP name	VS.OutgoingPSHOToUtraFddFailurePerHOReason
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	This counter doesn't take into account PS Handover to UTRA FDD during a CS fallback procedure. In case of Outgoing PS Handover resource allocation partial failure, the Outgoing PS Handover preparation procedure is considered as successful, this counter is not pegged at this stage.

12890 - Outgoing inter-eNodeB S1 handover abort per handover reason

This counter provides the number of times that an outgoing inter-eNodeB S1 handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12890
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Handover reason. *#0: Description:* S1 Handover was triggered for radio reason *Suffix 3GPP:* Radio *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure *#1: Description:* S1 Handover was triggered for off-loading reason upon eNodeB reactive load control decision. *Suffix 3GPP:* OffLoadingForReactiveLoadControl *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure *#2: Description:* S1 Handover was triggered for off-loading reason upon eNodeB preventive load control decision. *Suffix 3GPP:* OffLoadingForPreventiveLoadControl *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via S1
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBS1HOAbortPerHOReason
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged in LA5.0 by FRS 115685.

12891 - Off-loading success

This counter provides the number of times an off-loading mobility of a call is successful, i.e UE leaves the congested cell or the congested band or the congested eNodeB upon: completion of an inter-frequency or inter-RAT mobility procedure triggered for off-loading reason CSFB completion intra-frequency mobility triggered for radio reason UE context release.

Counter Information	Counter Value/Description
Counter Code	12891
Counter Type	CUMULATE
Triggering (Event)	Receipt of one of the following message Completion of redirection mobility or UE context release: S1AP UE CONTEXT RELEASE COMMAND message with cause normal release. Completion of outgoing eNodeB mobility over S1: S1AP UE CONTEXT RELEASE COMMAND message with cause Successful handover is received from the MME. Expiration of Tmobility-FromEutraCCO timer Completion of outgoing eNodeB mobility over X2: X2AP UE CONTEXT RELEASE message is received from the target eNodeB. Mobility timers expiry. Please also refer to screening triggering events.
Subcounters	Event. *#0: Description:* Off-loading was triggered by reactive load control. *Suffix 3GPP:* ReactiveLoadControl *Triggering Event:* Off-loading was triggered by reactive load control. *Report group:* Mandatory *#1: Description:* Off-loading was triggered by preventive load control. *Suffix 3GPP:* PreventiveLoadControl *Triggering Event:* Off-loading was triggered by preventive load control. *Report group:* Mandatory
Subfamily	Common Mobility Management Framework
Report group	Mandatory
3GPP name	VS.OffLoadingSuccess
Object Class	EutranCell
Range	0 to $2^{32}-1$

Counter Information	Counter Value/Description
Unit	EVENT

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12892 - Off-loading failure

This counter provides the number of times an off-loading mobility of a call failed, that is, UE doesn't leave the congested cell or the congested band or the congested eNodeB. The reasons may be: off-load not started due to MIM, UE capabilities reasons, off-laod timer timeout, handover preparation failure (S1, X2), handover preparation with partial failure, Interrupting procedure does not move the UE or doesn't respect the congestion level.

Counter Information	Counter Value/Description
Counter Code	12892
Counter Type	CUMULATE
Triggering (Event)	Off-loading mobility is either not launched, failed or is interrupted by another procedure which doesn't solve the congestion situation. Please refer to screening triggering events.
Subcounters	Event. *#0: Description:* Off-loading was triggered by reactive load control. *Suffix 3GPP:* ReactiveLoadControl *Triggering Event:* Off-loading was triggered by reactive load control. *Report group:* Mandatory *#1: Description:* Off-loading was triggered by preventive load control. *Suffix 3GPP:* PreventiveLoadControl *Triggering Event:* Off-loading was triggered by preventive load control. *Report group:* Mandatory
Subfamily	Common Mobility Management Framework
Report group	Mandatory
3GPP name	VS.OffLoadingFailure
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

12893 - Outgoing inter-eNodeB X2 handover abort per handover reason

This counter provides the number of times an outgoing inter-eNodeB X2 handover procedure towards the cell has been aborted.

Counter Information	Counter Value/Description
Counter Code	12893
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any event that interrupts the handover.
Subcounters	Handover reason. *#0: Description:* X2 Handover was triggered for radio reason *Suffix 3GPP:* Radio *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure *#1: Description:* X2 Handover was triggered for off-loading reason upon eNodeB reactive load control decision. *Suffix 3GPP:* OffLoadingForReactiveLoadControl *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure *#2: Description:* X2 Handover was triggered for off-loading reason upon eNodeB preventive load control decision. *Suffix 3GPP:* OffLoadingForPreventiveLoadControl *Triggering Event:* Refer to the common triggering event. *Report group:* MobilityFailure
Subfamily	HO Inter-Cell Inter-eNodeB via X2
Report group	Mandatory
3GPP name	VS.OutgoingInterENodeBX2HOAbortPerHOReason
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	May be pegged in LA5.0 by FRS 115685.

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16   Paging

Overview

Purpose

The following counters are generated to get information on Paging:

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13501 - S1 page attempts from MMEs

This counter provides the number of S1 page attempts received by the eNodeB from MMEs.

Counter Information	Counter Value/Description
Counter Code	13501
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when an S1 page is received from MMEs.
Subcounters	Not defined
Subfamily	Paging Attempt
Report group	Mandatory
3GPP name	VS.S1PageAttemptsFromMMEs
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	This is the eNodeB view of the raw page arrival rate aggregated from all MMEs. MME-based screening may be introduced in a future release.

13502 - S1 page attempts discarded

This counter provides the number of times that S1 page attempts from MMEs have been discarded by eNodeB.

Counter Information	Counter Value/Description
Counter Code	13502
Counter Type	CUMULATE
Triggering (Event)	Refer to screening-specific triggering events.
Subcounters	See 'Description' of each Screening below.
	#0: Description: Discarding of S1 pages due to OAM intervention (which can be either eNodeB side or MME side).
	Suffix 3GPP: InterventionOAM
	Triggering Event: Reception of an S1 page from the MME and the cell-barring hysteresis timer is armed, or the eNodeB Cells Barred alarm is raised for the eNodeB, or (MIM's) LteCell.cellBarred = 'barred' for the cell by OAM, or Cell is locked due to cell-related (Class B) parameters change.
	Report group: Mandatory
	#1: Description: Discarding of S1 pages due to Cell not available ' Internal Failure.
	Suffix 3GPP: CellNotAvailableInternalFailure
	Triggering Event: Reception of an S1 page from the MME and CEM has been crashed and remains out of service (despire recovery attempts), or CEM is re-setting after a failure (that is, not due to OAM-triggered resetting).
	Report group: Mandatory
	#2: Description: Discarding of S1 pages due due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: Discarding of S1 pages due due to overload condition.
	Report group: Mandatory
Subfamily	Paging Attempt
Report group	Mandatory
3GPP name	VS.S1PageAttemptsDiscarded
Object Class	EutranCell
Range	0 to 2^{32}-1

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Counter Information	Counter Value/Description
Unit	EVENT
Notes	An S1 page from MME is meant to all cells of the eNodeB. The discarding of page attempt is per cell. The net of counter 13501 and 13502 provide the actual per-cell paging load.

17 PDCP SDU

Overview

Purpose

The following counters are generated to get information on PDCP SDU:

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14201 - Downlink cell PDCP SDU volume

This measurement represents the ingress volume of user plane traffic to the eNodeB (via S1). The measurement is performed at the PDCP SDU level. PDCP SDUs that are forwarded over the X2/S1 and received from another eNodeB during handover are deducted from the bit count. Separate screenings are defined per QCI group.

Counter Information	Counter Value/Description
Counter Code	14201
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of user plane PDCP SDUs from S1 excluding PDCP SDUs forwarded over S1 and received from another eNodeB.
Subcounters	Type of service. *#0: Description:* Voice over IP E-RAB. *Suffix 3GPP:* VoIP *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Other Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	User Plane
Report group	Mandatory
3GPP name	VS.DRBPdcpSduKbytesDL
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	kBytes

Counter Information	Counter Value/Description
Notes	The above definition of this counter is a restriction of the PLM request due to implementation limitiation. The original PLM definition for this counter is: "Average cell bit-rate of PDCP SDUs on the downlink: This measurement represents the ingress rate of user plane traffic to the eNodeB (via X2 or S1). The measurement is performed at the PDCP SDU level. PDCP SDUs that are forwarded over the X2/S1 to another eNodeB during handover shall be deducted from the bit count. Separate counters shall be maintained for each QCI. This counter corresponds to the 3GPP DRB.PdcpSduBitrateDl.QCI measurement as specified in TS32.425".

14202 - Uplink cell PDCP SDU volume

This measurement represents successful transmissions of user plane traffic. Control signalling and retransmissions are excluded from this measure. The measurement is performed at the PDCP SDU level. PDCP SDUs that were not received over the air interface in the cell (but were forwarded from another eNodeB during handover) are excluded from the count. Separate screenings are defined per QCI group.

Counter Information	Counter Value/Description
Counter Code	14202
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of user plane PDCP SDUs from the air interface.
Subcounters	Type of service. *#0: Description:* Voice over IP E-RAB. *Suffix 3GPP:* VoIP *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Other Guaranteed Bit Rate E-RAB. *Suffix 3GPP:* OtherGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Non-GBR E-RAB. *Suffix 3GPP:* NonGBR *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	User Plane
Report group	Mandatory
3GPP name	VS.DRBPdcpSduKbytesUL
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kBytes

14203 - Downlink cell PDCP SDU bit-rate

This counter provides the average, minimum and maximum ingress bit-rate of user plane traffic to the eNodeB via S1 excluding PDCP SDUs forwarded over S1 and received from another eNodeB. This measurement is obtained by sampling at pre-defined intervals the DL cell PDCP SDU bit-rate summed across all QCIs.

Counter Information	Counter Value/Description
Counter Code	14203
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. The sampling period is one minute.
Subcounters	Not defined
Subfamily	User Plane
Report group	Mandatory
3GPP name	VS.DRBPdcpSduBitRateDL
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kbits/s

14204 - Uplink cell PDCP SDU bit-rate

This counter provides the average, minimum and maximum successful transmission bit-rate of user plane traffic, control signalling and retransmissions are excluded from this measure. PDCP SDUs that were not received over the air interface in the cell (but were forwarded from another eNodeB during handover) are excluded from the count. The measurement is obtained by sampling at pre-defined intervals the UL cell PDCP SDU bit-rate summed across all QCIs.

Counter Information	Counter Value/Description
Counter Code	14204
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. The sampling period is one minute.
Subcounters	Not defined
Subfamily	User Plane
Report group	Mandatory
3GPP name	DRB.PdcpSduBitrateUl
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kbits/s

14205 - Downlink cell control plane PDCP SDU volume

This measurement is obtained by accumulating the number of received control plane PDCP SDU bits by the eNodeB, including the control plane PDCP SDU bits received from S1 and RRC SAP during the measurement period.

Counter Information	Counter Value/Description
Counter Code	14205
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of control plane PDCP SDUs from S1.
Subcounters	Not defined
Subfamily	Control Plane
Report group	Mandatory
3GPP name	VS.SRBPdcpSduKbytesDL
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kBytes

14206 - Uplink cell control plane PDCP SDU volume

This measurement represents successful transmissions of control plane traffic. This measurement is obtained by accumulating the number of transmitted uplink control plane PDCP SDU bits by the eNodeB during the measurement period.

Counter Information	Counter Value/Description
Counter Code	14206
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of control plane PDCP SDUs from the air interface.
Subcounters	Not defined
Subfamily	Control Plane
Report group	Mandatory
3GPP name	VS.SRBPdcpSduKbytesUL
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	kBytes

18 Radio frequency measurements

Overview

Purpose

The following counters are generated to get information on Radio frequency measurements:

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13701 - Receive signal strength indicator measurement

This counter allows to have the average (by dividing the cumulated value by the elapsed time), maximum and minimum RSSI (Receive Signal Strength Indicator) values.

Counter Information	Counter Value/Description
Counter Code	13701
Counter Type	LOAD
Triggering (Event)	Sampling period of once every 10ms.
Subcounters	Rx antenna. *#0: Description:* RSSI measurements for Rx1. *Suffix 3GPP:* Rx1 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#1: Description:* RSSI measurements for Rx2. *Suffix 3GPP:* Rx2 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#2: Description:* RSSI measurements for Rx3. *Suffix 3GPP:* Rx3 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#3: Description:* RSSI measurements for Rx4. *Suffix 3GPP:* Rx4 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	Receive signal strength indicator
Report group	Mandatory
3GPP name	VS.RSSIMeasurement
Object Class	EutranCell
Range	0 to 10^7
Unit	femtoWatt
Notes	RSSI is a calculation performed by the modem from data received from the RRH. Although value is reported in units of femtoWatts, it is to be converted to dBm for presentation to the operator.

Radio frequency measurements
13702 - Radio frequency module transmit power
measurement

13702 - Radio frequency module transmit power measurement

This counter provides the average, maximum and minimum transmit power in use on the Radio Frequency Module (RFM).

Counter Information	Counter Value/Description
Counter Code	13702
Counter Type	LOAD
Triggering (Event)	Sampling period once every 100ms.
Subcounters	Type of transmit power measurement. *#0: Description:* Transmit Port 1 LTE Power. *Suffix 3GPP:* Tx1LTE *Triggering Event:* Refer to the common triggering event. *Report group:* SpecificFDD *#1: Description:* Transmit Port 2 LTE Power. *Suffix 3GPP:* Tx2LTE *Triggering Event:* Refer to the common triggering event. *Report group:* SpecificFDD
Subfamily	Transmit power
Report group	Mandatory
3GPP name	VS.RFMTxPowerMeasurement
Object Class	CpriRadioEquipment
Range	0 to 80000
Unit	0.001Watt
Notes	'Other Standard Power' indicates the RF power used by GSM, WCDMA, or CDMA cells sharing the RF unit with the LTE cell. When the RF unit supports only LTE then this value is 0.

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13703 - Radio frequency module processor occupancy

This counter provides the average, minimum and maximum processor occupancy of the Radio Frequency Module (RFM) as a percentage of full occupancy.

Counter Information	Counter Value/Description
Counter Code	13703
Counter Type	LOAD
Triggering (Event)	Sampling period once every 100ms.
Subcounters	Not defined
Subfamily	Capacity
Report group	Mandatory
3GPP name	VS.RFMProcessorOccupancy
Object Class	CpriRadioEquipment
Range	0 to 100
Unit	%

13704 - Cell transmit power measurement

This counter allows to have the average (by dividing the cumulated value by the elapsed time), maximum and minimum transmit power values.

Counter Information	Counter Value/Description
Counter Code	13704
Counter Type	VALUE
Triggering (Event)	Sampling period of once every 100ms.
Subcounters	Tx antenna. *#0: Description:* Tx Power 1. *Suffix 3GPP:* Tx1 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#1: Description:* Tx Power 2. *Suffix 3GPP:* Tx2 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#2: Description:* Tx Power 3. *Suffix 3GPP:* Tx3 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#3: Description:* Tx Power 4. *Suffix 3GPP:* Tx4 *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	Transmit power
Report group	Mandatory
3GPP name	VS.CellTxPowerMeasurement
Object Class	EutranCell
Range	0 to 80000
Unit	0.001Watt
Notes	This measurement is performed in the digital portion of the Radio Frequency Module.

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19   Radio scheduler

Overview

Purpose

The following counters are generated to get information on Radio scheduler:

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13001 - UE scheduled in downlink per TTI

This counter provides the average, maximum and minimum number of UEs scheduled on downlink per TTI in the cell. The average value is obtained by dividing the cumulative value of the UEs by the number of events. This counter is incremented when Orthogonal Carrier Noise Simlulator is activated.

Counter Information	Counter Value/Description
Counter Code	13001
Counter Type	VALUE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: Beginning/End of the observation period. Actions: If (nbUeDlTtiEvt NE 0) then Peg counter according to nbUeDlTtiMax, nbUeDlTtiMin, nbUeDlTtiCum and nbUeDlTtiEvt nbUeDlTtiMax = 0, nbUeDlTtiMin = 'Maximum number of UE schedulable per TTI', nbUeDlTtiCum = 0, nbUeDlTtiEvt = 0. 2.Trigger: Every TTI. Actions: If at least one UE has been scheduled in downlink during this TTI then nbUeDlTtiEvt++, nbUeDlTtiCum += 'number of UE scheduled on this TTI'. if ('number of UE scheduled on this TTI' GT nbUeDlTtiMax) then nbUeDlTtiMax = 'number of UE scheduled on this TTI'. if ('number of UE scheduled on this TTI' LT nbUeDlTtiMin) then nbUeDlTtiMin = 'number of UE scheduled on this TTI'.
Subcounters	Not defined
Subfamily	UE scheduled per TTI
Report group	Mandatory
3GPP name	VS.NbUeScheduledPerDLTTI
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

13002 - UE scheduled in uplink per TTI

This counter provides the average, maximum and minimum number of UEs scheduled (for fresh or retransmitted PDU) on uplink per TTI in the cell. The average value is obtained by dividing the cumulative value of the UEs by the number of events. Note that RACH msg3 messages does not peg this counter.

Counter Information	Counter Value/Description
Counter Code	13002
Counter Type	VALUE
Triggering (Event)	Use Numbered List tag and list the trigger information. 1.Trigger: Beginning/End of the observation period. Actions: If (nbUeUlTtiEvt NE 0) then Peg counter according to nbUeUlTtiMax, nbUeUlTtiMin, nbUeUlTtiCum and nbUeUlTtiEvt nbUeUlTtiMax = 0, nbUeUlTtiMin = 16, nbUeUlTtiCum = 0, nbUeUlTtiEvt = 0. 2.Trigger: Every TTI. Actions: If at least one UE has been scheduled in uplink during this TTI then nbUeUlTtiEvt++, nbUeUlTtiCum += 'number of UE scheduled on this TTI'. if ('number of UE scheduled on this TTI' GT nbUeUlTtiMax) then nbUeUlTtiMax = 'number of UE scheduled on this TTI'. if ('number of UE scheduled on this TTI' LT nbUeUlTtiMin) then nbUeUlTtiMin = 'number of UE scheduled on this TTI'.
Subcounters	Not defined
Subfamily	UE scheduled per TTI
Report group	Mandatory
3GPP name	VS.NbUeScheduledPerULTTI
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

13003 - Uplink grants per TTI

This counter provides a distribution of the number of Uplink grants (paired or not) sent per TTI.

Counter Information	Counter Value/Description
Counter Code	13003
Counter Type	CUMULATE
Triggering (Event)	The counter is updated on every TTI based on the number of Uplink grants sent on this TTI. The sub-counter that corresponds to the number of grants (paired or not) sent is incremented by 1. Note that grants for msg3 and for OCNS are not taken into account.
Subcounters	Number of grants range values. *#0: Description:* Number of TTIs for which no grant were sent. *Suffix 3GPP:* 0Grant *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of TTIs for which only 1 grant has been sent. *Suffix 3GPP:* 1Grant *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of TTIs for which 2 grants have been sent. *Suffix 3GPP:* 2Grants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Number of TTIs for which 3 grants have been sent. *Suffix 3GPP:* 3Grants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: Number of TTIs for which 4 grants have been sent.
	Suffix 3GPP: 4Grants
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Number of TTIs for which 5 grants have been sent.
	Suffix 3GPP: 5Grants
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Number of TTIs for which 6 or more grants have been sent.
	Suffix 3GPP: 6orMoreGrants
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Grants per TTI
Report group	Mandatory
3GPP name	VS.ULGrant
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

13004 - Uplink paired grants per TTI

This counter provides a distribution of the number of Uplink paired grants sent per TTI. Remark: Paired grants correspond to 2 grants sent for 2 different users on the same band.

Counter Information	Counter Value/Description
Counter Code	13004
Counter Type	CUMULATE
Triggering (Event)	The counter is updated on every TTI based on the number of Uplink paired grants sent on this TTI. The sub-counter that corresponds to the number of paired grants sent is incremented by 1.
Subcounters	Number of paired grants range values. *#0: Description:* Number of TTIs for which no paired grant were sent. *Suffix 3GPP:* 0Grant *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of TTIs for which only 1 paired grant has been sent. *Suffix 3GPP:* 1Grant *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of TTIs for which 2 paired grants have been sent. *Suffix 3GPP:* 2Grants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Grants per TTI
Report group	Mandatory
3GPP name	VS.ULPairedGrant
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	In LA1.x and LA2.x, only screenings 0 to 2 is applicable.

13005 - Downlink grants per TTI

This counter provides a distribution of the number of Downlink grants sent per TTI.

Counter Information	Counter Value/Description
Counter Code	13005
Counter Type	CUMULATE
Triggering (Event)	The counter is updated on every TTI based on the number of Downlink grants sent on this TTI. The sub-counter that corresponds to the number of grants sent is incremented by 1. Note that grants for OCNS are not taken into account.
Subcounters	Number of grants range values. *#0: Description:* Number of TTIs for which no grant were sent. *Suffix 3GPP:* 0Grant *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of TTIs for which only 1 grant has been sent. *Suffix 3GPP:* 1Grant *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of TTIs for which 2 grants have been sent. *Suffix 3GPP:* 2Grants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Number of TTIs for which 3 grants have been sent. *Suffix 3GPP:* 3Grants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* Number of TTIs for which 4 grants have been sent. *Suffix 3GPP:* 4Grants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#5: Description: Number of TTIs for which 5 grants have been sent. *Suffix 3GPP:* 5Grants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#6: Description:* Number of TTIs for which 6 or more grants have been sent. *Suffix 3GPP:* 6orMoreGrants *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	Grants per TTI
Report group	Mandatory
3GPP name	VS.DLGrant
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

13006 - Uplink normalized power headroom

This counter provides the distribution of normalized Power Headroom computed on the cell.

Counter Information	Counter Value/Description
Counter Code	13006
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered based on the normalized Power Headroom computed by the eNodeB for UEs camping on the cell. The counter is updated every time a normalized Power Headroom (PHnormalized) value is computed.
Subcounters	Power Headroom range values. *#0: Description:* Number of normalized PH values lower or equal to Range1. *Suffix 3GPP:* LeRange1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of normalized PH values greater than Range1 and lower or equal to Range2. *Suffix 3GPP:* GTRange1LeRange2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of normalized PH values greater than Range2 and lower or equal to Range3. *Suffix 3GPP:* GTRange2LeRange3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Number of normalized PH values greater than Range3 and lower or equal to Range4. *Suffix 3GPP:* GTRange3LeRange4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#4: Description: Number of normalized PH values greater than Range4.
	Suffix 3GPP: GTRange4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Power Headroom
Report group	Mandatory
3GPP name	VS.ULPHnormalized
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	The four screening criteria are obtained from the 4 elements of the MIM parameter powerHeadroomCounterThresholds (Range1, Range2, Range3, Range4).

13007 - Downlink MIMO eligibility decisions

This counter provides a view of the decisions taken by the downlink scheduler on whether UE are eligible or not to MIMO on the cell. Decisions are taken based on downlink rank and downlink CQI measurements periodically reported by the UE.

Counter Information	Counter Value/Description
Counter Code	13007
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered every time the downlink scheduler takes a decision that a UE is eligible (or not) to MIMO.
Subcounters	Eligible / not eligible. *#0: Description:* Number of times the scheduler has taken the decision that a UE was eligible to MIMO. *Suffix 3GPP:* Eligible *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of times the scheduler has taken the decision that a UE was not eligible to MIMO. *Suffix 3GPP:* NotEligible *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	MIMO
Report group	Mandatory
3GPP name	VS.DLMimoEligibilityDecision
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

13008 - Contention based Random Access Preamble received

This counter provides the number of 'Random Access Preamble' messages (msg1) that have been received on a cell in the context of contention based RACH procedure.

Counter Information	Counter Value/Description
Counter Code	13008
Counter Type	CUMULATE
Triggering (Event)	This counter is incremented each time the eNodeB receives a 'Random Access Preamble' messages (msg1) from a UE and the preamble received belongs to 'contention based' pool.
Subcounters	Not defined
Subfamily	RACH
Report group	Mandatory
3GPP name	VS.ContentionBasedRandomAccessPreamble
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

13009 - Contention free Random Access Preamble received

This counter provides the number of 'Random Access Preamble' messages (msg1) that have been received on a cell in the context of contention free RACH procedure.

Counter Information	Counter Value/Description
Counter Code	13009
Counter Type	CUMULATE
Triggering (Event)	This counter is incremented each time the eNodeB receives a 'Random Access Preamble' messages (msg1) from a UE and the preamble received belongs to 'contention free' pool.
Subcounters	Not defined
Subfamily	RACH
Report group	Mandatory
3GPP name	VS.ContentionFreeRandomAccessPreamble
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

13010 - Contention based Random Access Response sent

This counter provides the number of 'Random Access Response' messages (msg2) that have been sent from a cell in the context of contention based RACH procedure.

Counter Information	Counter Value/Description
Counter Code	13010
Counter Type	CUMULATE
Triggering (Event)	This counter is incremented each time the eNodeB sends a 'Random Access Response' messages (msg2) to a UE and the preamble that is answered belongs to 'contention based' pool.
Subcounters	Not defined
Subfamily	RACH
Report group	Mandatory
3GPP name	VS.ContentionBasedRandomAccessResponse
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

13011 - Contention free Random Access Response sent

This counter provides the number of 'Random Access Response' messages (msg2) that have been sent from a cell in the context of contention free RACH procedure.

Counter Information	Counter Value/Description
Counter Code	13011
Counter Type	CUMULATE
Triggering (Event)	This counter is incremented each time the eNodeB sends a 'Random Access Response' messages (msg2) to a UE and the preamble that is, answered belongs to 'contention free' pool.
Subcounters	Not defined
Subfamily	RACH
Report group	Mandatory
3GPP name	VS.ContentionFreeRandomAccessResponse
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

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13012 - Contention resolution sent

This counter provides the number of 'Contention Resolution' messages (msg4) that have been sent from on a cell.

Counter Information	Counter Value/Description
Counter Code	13012
Counter Type	CUMULATE
Triggering (Event)	This counter is incremented each time the eNodeB sends a 'Contention Resolution' message to a UE.
Subcounters	Not defined
Subfamily	RACH
Report group	Mandatory
3GPP name	VS.ContentionResolution
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT

13013 - Layer 0 wideband CQI reported in Tx diversity

This counter provides the number of times that each wideband CQI value has been reported by UEs in the cell on layer 0 when the connection mode was 'Tx diversity'.

Counter Information	Counter Value/Description
Counter Code	13013
Counter Type	CUMULATE
Triggering (Event)	The counter is updated each time a wideband CQI value is reported by an UE on layer 0 of the connection and the connection mode is 'Tx diversity'.
Subcounters	CQI value reported.
	#0: Description: Number of reported CQI values equal to '0'.
	Suffix 3GPP: Cqi0
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Number of reported CQI values equal to '1'.
	Suffix 3GPP: Cqi1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Number of reported CQI values equal to '2'.
	Suffix 3GPP: Cqi2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Number of reported CQI values equal to '3'.
	Suffix 3GPP: Cqi3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Number of reported CQI values equal to '4'.
	Suffix 3GPP: Cqi4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Number of reported CQI values equal to '5'.
	Suffix 3GPP: Cqi5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

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Counter Information	Counter Value/Description
	#6: Description: Number of reported CQI values equal to '6'.
	Suffix 3GPP: Cqi6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Number of reported CQI values equal to '7'.
	Suffix 3GPP: Cqi7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: Number of reported CQI values equal to '8'.
	Suffix 3GPP: Cqi8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Number of reported CQI values equal to '9'.
	Suffix 3GPP: Cqi9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: Number of reported CQI values equal to '10'.
	Suffix 3GPP: Cqi10
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#11: Description: Number of reported CQI values equal to '11'.
	Suffix 3GPP: Cqi11
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#12: Description: Number of reported CQI values equal to '12'.
	Suffix 3GPP: Cqi12
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#13: Description: Number of reported CQI values equal to '13'.
	Suffix 3GPP: Cqi13
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

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Counter Information	Counter Value/Description
	#14: Description: Number of reported CQI values equal to '14'.
	Suffix 3GPP: Cqi14
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: Number of reported CQI values equal to '15'.
	Suffix 3GPP: Cqi15
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Tx diversity
Report group	Mandatory
3GPP name	VS.Layer0TxDivWBCqiReported
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

13014 - Layer 0 wideband CQI reported in MIMO

This counter provides the number of times that each wideband CQI value has been reported by UEs in the cell on layer 0 when the connection mode was 'MIMO'.

Counter Information	Counter Value/Description
Counter Code	13014
Counter Type	CUMULATE
Triggering (Event)	The counter is updated each time a wideband CQI value is reported by an UE on layer 0 of the connection and the connection mode is 'MIMO'.
Subcounters	CQI value reported. *#0: Description:* Number of reported CQI values equal to '0'. *Suffix 3GPP:* Cqi0 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Number of reported CQI values equal to '1'. *Suffix 3GPP:* Cqi1 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Number of reported CQI values equal to '2'. *Suffix 3GPP:* Cqi2 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#3: Description:* Number of reported CQI values equal to '3'. *Suffix 3GPP:* Cqi3 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* Number of reported CQI values equal to '4'. *Suffix 3GPP:* Cqi4 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#5: Description:* Number of reported CQI values equal to '5'. *Suffix 3GPP:* Cqi5 *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#6: Description: Number of reported CQI values equal to '6'.
	Suffix 3GPP: Cqi6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Number of reported CQI values equal to '7'.
	Suffix 3GPP: Cqi7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: Number of reported CQI values equal to '8'.
	Suffix 3GPP: Cqi8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Number of reported CQI values equal to '9'.
	Suffix 3GPP: Cqi9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: Number of reported CQI values equal to '10'.
	Suffix 3GPP: Cqi10
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#11: Description: Number of reported CQI values equal to '11'.
	Suffix 3GPP: Cqi11
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#12: Description: Number of reported CQI values equal to '12'.
	Suffix 3GPP: Cqi12
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#13: Description: Number of reported CQI values equal to '13'.
	Suffix 3GPP: Cqi13
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#14: Description: Number of reported CQI values equal to '14'.
	Suffix 3GPP: Cqi14
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: Number of reported CQI values equal to '15'.
	Suffix 3GPP: Cqi15
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	MIMO
Report group	Mandatory
3GPP name	VS.Layer0MimoWBCqiReported
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

13015 - Layer 1 wideband CQI reported

This counter provides the number of times that each wideband CQI value has been reported by UEs in the cell on layer 1 (only established when the connection mode was 'MIMO'). Note: The value provided by the UE is only an offset to be applied to the CQI value reported for layer 0. Then the absolute value has to be computed by the eNodeB. The requested value is the computed one.

Counter Information	Counter Value/Description
Counter Code	13015
Counter Type	CUMULATE
Triggering (Event)	The counter is updated each time a wideband CQI value is reported by an UE on layer 1 of the connection and has been transformed into an absolute value by the eNodeB (see remark above).
Subcounters	CQI value reported.
	#0: Description: Number of reported CQI values equal to '0'.
	Suffix 3GPP: Cqi0
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Number of reported CQI values equal to '1'.
	Suffix 3GPP: Cqi1
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Number of reported CQI values equal to '2'.
	Suffix 3GPP: Cqi2
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Number of reported CQI values equal to '3'.
	Suffix 3GPP: Cqi3
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Number of reported CQI values equal to '4'.
	Suffix 3GPP: Cqi4
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

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Counter Information	Counter Value/Description
	#5: Description: Number of reported CQI values equal to '5'.
	Suffix 3GPP: Cqi5
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Number of reported CQI values equal to '6'.
	Suffix 3GPP: Cqi6
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Number of reported CQI values equal to '7'.
	Suffix 3GPP: Cqi7
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: Number of reported CQI values equal to '8'.
	Suffix 3GPP: Cqi8
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: Number of reported CQI values equal to '9'.
	Suffix 3GPP: Cqi9
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: Number of reported CQI values equal to '10'.
	Suffix 3GPP: Cqi10
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#11: Description: Number of reported CQI values equal to '11'.
	Suffix 3GPP: Cqi11
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#12: Description: Number of reported CQI values equal to '12'.
	Suffix 3GPP: Cqi12
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#13: Description: Number of reported CQI values equal to '13'.
	Suffix 3GPP: Cqi13
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#14: Description: Number of reported CQI values equal to '14'.
	Suffix 3GPP: Cqi14
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#15: Description: Number of reported CQI values equal to '15'.
	Suffix 3GPP: Cqi15
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	MIMO
Report group	Mandatory
3GPP name	VS.Layer1WBCqiReported
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

20   RRC connection

Overview

Purpose

The following counters are generated to get information on RRC connection:

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12302 - Total RRC connection success

This counter provides the number for RRC connection procedures successfully completed.

Counter Information	Counter Value/Description
Counter Code	12302
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when RrcConnectionSetupComplete message is received.
Subcounters	Not defined
Subfamily	RRC Setup
Report group	Mandatory
3GPP name	RRC.ConnEstabSucc.Sum
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12303 - Total RRC connection failure

This counter provides the number for RRC connection procedures that have been failed.

Counter Information	Counter Value/Description
Counter Code	12303
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes it impossible to establish RRC connection.
Subcounters	Not defined
Subfamily	RRC Setup
Report group	Mandatory
3GPP name	RRC.ConnEstabFail.Sum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12304 - RRC connection failure

This counter provides the number for RRC connection procedures that have been failed for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12304
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: Rejection from the eUTRAN due to CAC failure (Maximum number of call of the eNodeB exceeded, ...). The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: CACFailure
	Triggering Event: Sending of RrcConnectionReject.
	Report group: Mandatory
	#1: Description: Failure due to RrcConnectionSetupComplete supervision timer expiration (message not received from the UE).
	Suffix 3GPP: NoResponseFromUE
	Triggering Event: RrcConnectionSetupComplete supervision timer expiration.
	Report group: RRCConnection
	#2: Description: All MMEs accesses are disabled and the cell is not barred.
	Suffix 3GPP: S1FaultExternalFailure
	Triggering Event: Sending of RrcConnectionReject due to the problem in 'Description'.
	Report group: RRCConnection
	#3: Description: Loss of the cell service due to customer OAM intervention barring the cell or a UE is illicitly trying to access a cell reserved for operator use (When a cell is reserved for operator use, only RRC establishment requests using cause 'highPriorityAccess' are allowed).
	Suffix 3GPP: InterventionOAM
	Triggering Event: Sending of RrcConnectionReject due to the problem in 'Description'.
	Report group: RRCConnection

Counter Information	Counter Value/Description
	#4: Description: Reception of RRC Connection Request with a provided MME in overload state and overload action set to 'reject all RRC Connection establishment for non-emergency mobile originated data transfer' (RRC Connection Establishment cause 'moData').
	Suffix 3GPP: MoData
	Triggering Event: Sending of RrcConnectionReject.
	Report group: RRCConnection
	#5: Description: Reception of RRC Connection Request with a provided MME in overload state and overload action set to 'reject all RRC Connection establishment for signalling' (RRC Connection Establishment cause 'moData' or 'moSignalling').
	Suffix 3GPP: MoDataMoSignalling
	Triggering Event: Sending of RrcConnectionReject.
	Report group: RRCConnection
	#6: Description: Reception of RRC Connection Request with a provided MME in overload state and overload action set to 'only permit RRC connection establishments for emergency sessions and mobile terminated session' (only RRC Connection Establishment causes 'emergency' and 'mtAccess' are accepted, other causes are rejected).
	Suffix 3GPP: NonEmergencyNonMtAccess
	Triggering Event: Sending of RrcConnectionReject.
	Report group: RRCConnection
	#7: Description: Failure due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: Sending of RrcConnectionReject.
	Report group: RRCConnection
	#10: Description: An RRC Connection Request has been queued too long for it to be worth processing, as the UE is no longer awaiting an answer.
	Suffix 3GPP: TooLateEnbResponse
	Triggering Event: Discard of an RRC Connection Request.
	Report group: Spare1
Subfamily	RRC Setup
Report group	Mandatory

Counter Information	Counter Value/Description
3GPP name	RRC.ConnEstabFail
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	There is currently no cause provided in 3GPP RrcConnectionReject message. Information available in LA1.0 through UPOS traces. As far as the KPI for eNodeB reliability/ availability is concerned, Screening 3 is not ALU contributable and Screening 2 may or may not be ALU contributable. In case of overlap screening 3 shall be pegged instead of screening 2. For screenings 2 - 3, the eNodeB first starts a "cell-barring hysteresis timer" (interval T1) and, when it times out, raises an"eNodeB Cells Barred" alarm, which triggers DSIM/ CNP (L97933 logic). In the worst case it takes eNodeB 40 sec (interval T2) to notify all the UEs. So prior to this point -- that is, during the entire interval (T1+T2) -- "unaware" UEs can still make calls and the eNodeB needs to reject them with proper pegging/screenings. After the UEs are 'aware' that the cell is barred, they will not attempt a call on this cell and thus will not peg any screenings on the cell. If DSIM is not enabled, the cell barred information cannot be broadcast, and UEs will continue to attempt to access the barred cell, resulting in pegging of this counter for each failed attempt. If one or more S1 link is locked and other S1 links experience problems described in Screening 2 resulting in a loss of S1 service, the pegging is done against Screening 3, regardless of the order of S1 events.

12305 - Total radio link failure detected

This counter provides the number of Radio Link failures detected by the eNodeB. Radio link failures detected are not counted in case RRC ConnectionReconfiguration (HO command) or RRCMobilityfromEUTRACommand has been previously transmitted.

Counter Information	Counter Value/Description
Counter Code	12305
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the Radio Link failure is detected by the eNodeB.
Subcounters	Not defined
Subfamily	Radio link failure
Report group	Mandatory
3GPP name	VS.RadioLinkFailureSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12306 - Radio link failure detected

This counter provides the number of Radio Link failures detected by the eNodeB. Radio link failures detected are not counted in case RRC connection Reconfiguration (HO command) has been previously transmitted.

Counter Information	Counter Value/Description
Counter Code	12306
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when Radio Link failure is detected and no RRC connection Reconfiguration (HO command) has been previously transmitted (see below for details).
Subcounters	Radio Link Failure detection trigger. *#0: Description:* Maximum number of DL RLC retransmissions has been reached. *Suffix 3GPP:* MaxNbRlcRetransReached *Triggering Event:* Internal counter handling the number of RLC retransmissions for a given block has its value equal to the maximum allowed value. *Report group:* Mandatory *#1: Description:* Loss of UL L1 synchronization. *Suffix 3GPP:* LossOfUlL1Synchro *Triggering Event:* SRS SINR value computed by the eNodeB is below configurable threshold, indicating a loss of UL synchronization. *Report group:* Mandatory
Subfamily	Radio link failure
Report group	Mandatory
3GPP name	VS.RadioLinkFailure
Object Class	EutranCell
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12307 - RRC connection re-establishment request

This counter provides the number of RRC connection re-establishment requests received on the cell.

Counter Information	Counter Value/Description
Counter Code	12307
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RrcConnectionReestablishmentRequest message is received.
Subcounters	Not defined
Subfamily	RRC Reestablishment Setup
Report group	Mandatory
3GPP name	RRC.ConnReEstabAtt.Sum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12308 - RRC connection re-establishment success

This counter provides the number for RRC connection re-establishment procedures that ended successfully on the cell.

Counter Information	Counter Value/Description
Counter Code	12308
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RrcConnectionReconfiguration-Complete message is received after the RRC re-establishment procedure is performed for the UE.
Subcounters	Use case.
	#0: Description: Re-establishment is successfully performed while received when intra-eNodeB handover procedure is ongoing. The cell on which the re-establishment is requested is the handover Target cell.
	Suffix 3GPP: OnTargetCellDuringIntraENodeBHO
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Re-establishment is successfully performed while received when inter-eNodeB handover through X2 procedure is ongoing. The cell on which the re-establishment is requested is the handover Target cell.
	Suffix 3GPP: OnTargetCellDuringInterENodeBX2HO
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Re-establishment is successfully performed while received when inter-eNodeB handover through S1 procedure is ongoing. The cell on which the re-establishment is requested is the handover Target cell.
	Suffix 3GPP: OnTargetCellDuringInterENodeBS1HO
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#3: Description: Re-establishment is successfully performed while received when handover procedure is ongoing. The cell on which the re-establishment is requested is not the handover Target cell. It is applicable during intra-eNodeB handover, during inter-eNodeB handover through X2 or S1 on source eNodeB and target eNodeB, during PS handover on source eNodeB, during incoming PS handover from UTRAN, during SRVCC to UTRA-FDD/TDD.
	Suffix 3GPP: OnOtherCellDuringHO
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#4: Description: Re-establishment is successfully performed but there is no handover procedure ongoing when request for re-establishment is received. The cell on which the re-establishment is requested is not the serving cell. It is applicable if re-establishment is requested while reconfiguration procedure (for bearer mngt, security mngt or measurement mngt) is ongoing or when there is no procedure ongoing.
	Suffix 3GPP: OnNotServingCellNotDuringHO
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: All the other cases: Re-establishment is successfully performed on serving cell and there is no handover procedure ongoing. It is applicable if re-establishment is requested while reconfiguration procedure (for bearer mngt, security mngt or measurement mngt) is ongoing or when there is no procedure ongoing.
	Suffix 3GPP: Other
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Re-establishment is successfully performed while received when intra-eNodeB inter-frequency same frame structure handover procedure is ongoing. The cell on which the re-establishment is requested is the handover Target cell.
	Suffix 3GPP: OnTargetCellDuringIntraENode-BInterFreqSameFrameStructureHO
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#7: Description: Re-establishment is successfully performed while received when inter-eNodeB inter-frequency same frame structure handover through X2 procedure is ongoing. The cell on which the re-establishment is requested is the handover Target cell. *Suffix 3GPP:* OnTargetCellDuringInterENodeBInterFreqSameFrameStructureX2HO *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#8: Description:* Re-establishment is successfully performed while received when inter-eNodeB inter-frequency same frame structure handover through S1 procedure is ongoing. The cell on which the re-establishment is requested is the handover Target cell. *Suffix 3GPP:* OnTargetCellDuringInterENodeBInterFreqSameFrameStructureS1HO *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	RRC Reestablishment Setup
Report group	Mandatory
3GPP name	RRC.ConnReEstabSucc
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12309 - Total RRC connection re-establishment failure

This counter provides the number for RRC connection re-establishment procedures that have been failed.

Counter Information	Counter Value/Description
Counter Code	12309
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when there is any failure, including protocol errors, that makes it impossible to re-establish RRC connection.
Subcounters	Not defined
Subfamily	RRC Reestablishment Setup
Report group	Mandatory
3GPP name	RRC.ConnReEstabFail.Sum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12310 - RRC connection re-establishment failure

This counter provides the number for RRC connection re-establishment procedures that have been failed for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12310
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: Re-establishment not allowed through dedicated configuration parameter.
	Suffix 3GPP: ReestablishmentNotAllowed
	Triggering Event: Reception of RrcConnectionReestablishmentRequest message while ActivationService: isRrcReEstablishmentAllowed parameter is set to 'false' in the cell.
	Report group: RRCConnection
	#1: Description: ReestabUE-Identity received in RrcConnectionReestablishmentRequest message unknown by the eNodeB not due to a ShortMAC-I mismatch.
	Suffix 3GPP: ReestabUEIdUnknown
	Triggering Event: Reception of RrcConnectionReestablishmentRequest message where the ReestabUE-Identity is not known by the eNodeB.
	Report group: RRCConnection
	#2: Description: The eNodeB does not receive RrcConnectionReestablishmentComplete before defense timer expiry started on RrcConnectionReestablishment transmission.
	Suffix 3GPP: RrcConnectionReestabTimeout
	Triggering Event: Expiration of the timer supervising reception of RrcConnectionReestablishmentComplete message.
	Report group: RRCConnection

Counter Information	Counter Value/Description
	#3: Description: The eNodeB does not receive RrcConnectionRe-configurationComplete before defense timer expiry started on RrcConnectionReconfiguration transmission.
	Suffix 3GPP: RrcConnectionReconfigTimeout
	Triggering Event: Expiration of the timer supervising reception of RrcConnectionReconfigurationComplete message in the context of an RRC reconfiguration initiated following RRC connection re-establishment.
	Report group: RRCConnection
	#4: Description: The eNodeB receives another RrcConnection-ReestablishmentRequest from the same UE before completion of an ongoing re-establishment for example after transmission of RrcConnectionReestablishment and before reception of RrcConnectionReconfigurationComplete.
	Suffix 3GPP: NewRrcConnectionReestabRequest
	Triggering Event: Reception of RrcConnectionReestablishmen-tRequest message while a RRC connection re-establishment procedure is already ongoing.
	Report group: RRCConnection
	#5: Description: Radio Link failure.
	Suffix 3GPP: RadioLinkFailure
	Triggering Event: Detection of a Radio Link failure during re-establishment procedure handling.
	Report group: RRCConnection
	#6: Description: The eNodeB detects a ShortMAC-I mismatch when processing the reestablishment request.
	Suffix 3GPP: ShortMACIMismatch
	Triggering Event: Detection of a ShortMAC-I mismatch during re-establishment procedure handling.
	Report group: RRCConnection
	#7: Description: All MMEs accesses are disabled and the cell is not barred.
	Suffix 3GPP: S1FaultExternalFailure
	Triggering Event: Reception of RrcConnectionReestablishmen-tRequest message and the problem in 'Description' is true.
	Report group: RRCConnection

Counter Information	Counter Value/Description
	#8: Description: Loss of the cell service due to customer OAM intervention barring the cell.
	Suffix 3GPP: InterventionOAM
	Triggering Event: Reception of RrcConnectionReestablishmentRequest message and the problem in 'Description' is true.
	Report group: RRCConnection
	#9: Description: CAC failure (lack of resource) for all E-RABs. The granularity of CAC may be eNodeB, cell or PLMN.
	Suffix 3GPP: CACFailure
	Triggering Event: RrcConnectionReestablishmentFailure message sending due to CAC failure.
	Report group: Mandatory
	#10: Description: Integrity verification is failed on an UL RRC message received on SRB1 (RRC Connection re-establishment Complete or RRC Connection Reconfiguration complete) while re-establishment is ongoing.
	Suffix 3GPP: IntegrityFailure
	Triggering Event: Detection of integrity failure on a received UL RRC message.
	Report group: RRCConnection
	#11: Description: Failure due to overload condition.
	Suffix 3GPP: OverloadConditionFailure
	Triggering Event: RrcConnectionReestablishmentFailure message sending due to overload condition.
	Report group: RRCConnection
	#12: Description: An RRC Connection Reestablishment Request has been queued too long for it to be worth processing, as the UE is no longer awaiting an answer.
	Suffix 3GPP: TooLateEnbResponse
	Triggering Event: Discard of an RRC Connection Reestablishment Request.
	Report group: Spare1
Subfamily	RRC Reestablishment Setup
Report group	Mandatory
3GPP name	RRC.ConnReEstabFail
Object Class	EutranCell

Counter Information	Counter Value/Description
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. For screenings 7 - 8, the eNodeB first starts a "cell-barring hysteresis timer" (interval T1) and, when it times out, raises an"eNodeB Cells Barred" alarm, which triggers DSIM/ CNP (L97933 logic). In the lower case it takes eNodeB 40 sec (interval T2) to notify all the UEs. So prior to this point -- that is, during the entire interval (T1+T2) -- "unaware" UEs can try RrcConnectionReestablishmentRequest and the eNodeB needs to reject them with proper pegging/screenings If one or more S1 link is locked and other S1 links experience problems described in Screening 7 resulting in a loss of S1 service, the pegging is done against Screening 8, regardless of the order of S1 events.

12311 - RRC connection request

This counter provides the number for RRC connection requests received from UE in the cell.

Counter Information	Counter Value/Description
Counter Code	12311
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RrcConnectionRequest message is received.
Subcounters	EstablishmentCause value in the message.
	#0: Description: EstablishmentCause = 'emergency'.
	Suffix 3GPP: EmergencyCallAttempts
	Triggering Event: Refer to the common triggering event.
	Report group: Mandatory
	#1: Description: EstablishmentCause = 'highPriorityAccess'.
	Suffix 3GPP: HighPriorityAccessAttempts
	Triggering Event: Refer to the common triggering event.
	Report group: Mandatory
	#2: Description: EstablishmentCause = 'mt-Access'.
	Suffix 3GPP: PageResponsesReceived
	Triggering Event: Refer to the common triggering event.
	Report group: Mandatory
	#3: Description: EstablishmentCause = 'mo-Signalling'.
	Suffix 3GPP: MobileOriginatedSignalling
	Triggering Event: Refer to the common triggering event.
	Report group: Mandatory
	#4: Description: EstablishmentCause = 'mo-Data'.
	Suffix 3GPP: MobileOriginatedUserBearer
	Triggering Event: Refer to the common triggering event.
	Report group: Mandatory
	#5: Description: EstablishmentCause = spare values in the 3GPP.
	Suffix 3GPP: Other
	Triggering Event: Refer to the common triggering event.
	Report group: Mandatory
Subfamily	RRC Setup

Counter Information	Counter Value/Description
Report group	Mandatory
3GPP name	RRC.ConnEstabAtt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12312 - RRC connection release due to MME overload

This counter provides the number for RRC connection released by eNodeB due to MME Overload. A screening is defined for each Overload Action value : - reject of 'moData' - reject of 'moSignalling and moData' - reject of all non-emergency or non 'mtAccess' calls.

Counter Information	Counter Value/Description
Counter Code	12312
Counter Type	CUMULATE
Triggering (Event)	Reception of a RRC Connection Setup Complete with a provided MME in overload state.
Subcounters	Cause. *#0: Description:* RRC Connection release for 'moData'. *Suffix 3GPP:* MoData *Triggering Event:* Reception of RRC Connection Setup Complete with a provided MME in overload state and overload action set to 'reject all RRC Connection establishment for non-emergency mobile originated data transfer' (RRC Connection Establishment cause 'moData'). *Report group:* Mandatory *#1: Description:* RRC Connection release for 'moData' and 'moSignalling'. *Suffix 3GPP:* MoDataMoSignalling *Triggering Event:* Reception of RRC Connection Setup Complete with a provided MME in overload state and overload action set to 'reject all RRC Connection establishment for signalling' (RRC Connection Establishment cause 'moData' or 'moSignalling'). *Report group:* Mandatory *#2: Description:* RRC Connection release for non emergency or non 'mtAccess' sessions. *Suffix 3GPP:* NonEmergencyNonMtAccess *Triggering Event:* Reception of RRC Connection Setup Complete with a provided MME in overload state and overload action set to 'only permit RRC connection establishments for emergency sessions and mobile terminated services' (only RRC Connection Establishment causes 'emergency' and 'mtAccess' are accepted, other causes are rejected). *Report group:* Mandatory
Subfamily	Overload Release

Counter Information	Counter Value/Description
Report group	Mandatory
3GPP name	VS.RrcConnectionReleaseDueToMMEOverload
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12314 - RRC connection release due to inability to preempt

This counter provides the number of times an RRC connection with cause 'Emergency' is released right after RRCConnectionSetupComplete is received."If the system is at the limit on the number of users per eNB when the emergency connection is requested and the'IMS Emergency Calling feature is activated'and reactive load control is activated, but the eNB is unable to find another user that can be preempted then the emergency connection is released after RRCConnectionSetupComplete and this counter is pegged.

Counter Information	Counter Value/Description
Counter Code	12314
Counter Type	CUMULATE
Triggering (Event)	Sending of RRCConnectionRelease right after RRCConnection-SetupComplete.
Subcounters	Not defined
Subfamily	Congestion Release
Report group	Mandatory
3GPP name	VS.RrcConnectionReleaseDueToInabilityToPreempt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12315 - RRC connection request without repetition

This counter provides the number for RRC connection requests received from UE in the cell, excluding the repetitions.

Counter Information	Counter Value/Description
Counter Code	12315
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the first RrcConnectionRequest message is received from UE in the cell. This is detected through InitialUE-Identity IE received in RrcConnectionRequest with the EstablishmentCause of the concerned screening: - If s-TMSI is present, no UE in the cell context shall have the same value stored and same EstablishmentCause value - If randomValue is present, no UE context in the cell shall have the same value stored and same EstablishmentCause value.
Subcounters	EstablishmentCause value in the message. *#0: Description:* EstablishmentCause = 'emergency'. *Suffix 3GPP:* EmergencyCallAttempts *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#1: Description:* EstablishmentCause = 'highPriorityAccess'. *Suffix 3GPP:* HighPriorityAccessAttempts *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#2: Description:* EstablishmentCause = 'mt-Access'. *Suffix 3GPP:* PageResponsesReceived *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#3: Description:* EstablishmentCause = 'mo-Signalling'. *Suffix 3GPP:* MobileOriginatedSignalling *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory *#4: Description:* EstablishmentCause = 'mo-Data'. *Suffix 3GPP:* MobileOriginatedUserBearer *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory

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Counter Information	Counter Value/Description
	#5: Description: EstablishmentCause = spare values in the 3GPP. *Suffix 3GPP:* Other *Triggering Event:* Refer to the common triggering event. *Report group:* Mandatory
Subfamily	RRC Setup
Report group	Mandatory
3GPP name	VS.RrcConnectionRequestWithoutRepetition
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12320 - RRC connection success

This counter provides the number for RRC connection procedures successfully completed in the cell.

Counter Information	Counter Value/Description
Counter Code	12320
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the RrcConnectionSetupComplete message is received.
Subcounters	EstablishmentCause value in the message.
	#0: Description: EstablishmentCause = 'emergency'.
	Suffix 3GPP: EmergencyCall
	Triggering Event: Refer to the common triggering event.
	Report group: CustomerSpare1
	#1: Description: EstablishmentCause = 'highPriorityAccess'.
	Suffix 3GPP: HighPriorityAccess
	Triggering Event: Refer to the common triggering event.
	Report group: CustomerSpare1
	#2: Description: EstablishmentCause = 'mt-Access'.
	Suffix 3GPP: PageResponsesReceived
	Triggering Event: Refer to the common triggering event.
	Report group: CustomerSpare1
	#3: Description: EstablishmentCause = 'mo-Signalling'.
	Suffix 3GPP: MobileOriginatedSignalling
	Triggering Event: Refer to the common triggering event.
	Report group: CustomerSpare1
	#4: Description: EstablishmentCause = 'mo-Data'.
	Suffix 3GPP: MobileOriginatedUserBearer
	Triggering Event: Refer to the common triggering event.
	Report group: CustomerSpare1
	#5: Description: EstablishmentCause = spare values in the 3GPP.
	Suffix 3GPP: Other
	Triggering Event: Refer to the common triggering event.
	Report group: CustomerSpare1
Subfamily	RRC Setup

Counter Information	Counter Value/Description
Report group	Mandatory
3GPP name	RRC.ConnEstabSucc
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12321 - RRC connection setup without repetition

This counter provides the number for RRC connection setup sent by the eNodeB towards UEs in the cell, excluding the repetitions.

Counter Information	Counter Value/Description
Counter Code	12321
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the first RrcConnectionSetup message is sent to the UE in the cell.
Subcounters	Not defined
Subfamily	RRC Setup
Report group	CustomerSpare1
3GPP name	VS.RrcConnectionSetupWithoutRepetition
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

21   S1 dedicated connection

Overview

Purpose

The following counters are generated to get information on S1 dedicated connection:

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12401 - Initial UE message sending

This counter indicates the number of 'UE INITIAL MESSAGE' sent to the MME.

Counter Information	Counter Value/Description
Counter Code	12401
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the UE INITIAL MESSAGE is sent to the MME.
Subcounters	Not defined
Subfamily	S1 Setup
Report group	Mandatory
3GPP name	S1SIG.ConnEstabAtt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12402 - First downlink NAS transport

This counter provides the number of DL NAS TRANSPORT messages received just after UE INITIAL MESSAGE has been sent (only the first received message is considered).

Counter Information	Counter Value/Description
Counter Code	12402
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the first DL NAS TRANSPORT message is received.
Subcounters	Not defined
Subfamily	S1 Setup
Report group	Mandatory
3GPP name	VS.FirstDLNasTransport
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

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12403 - UE context setup request received

This counter provides the number of INITIAL CONTEXT SETUP REQUEST messages received from the MME.

Counter Information	Counter Value/Description
Counter Code	12403
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the S1AP INITIAL CONTEXT SETUP REQUEST message is received.
Subcounters	Was a 'DL NAS TRANSPORT' message received previously for the same connection? *#0: Description:* No 'DL NAS TRANSPORT' message received before INITIAL CONTEXT SETUP REQUEST. *Suffix 3GPP:* WithoutPreviousDLNASTransport *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* 'DL NAS TRANSPORT' message received before INITIAL CONTEXT SETUP REQUEST. *Suffix 3GPP:* AfterDLNASTransport *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	S1 Setup
Report group	Mandatory
3GPP name	VS.UEContextSetupRequest
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12405 - S1 connection establishment failure

This counter provides the number of S1 dedicated connection establishment failures for some failure causes.

Counter Information	Counter Value/Description
Counter Code	12405
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure type. *#0: Description:* Procedure failure due to timeout. *Suffix 3GPP:* Timeout *Triggering Event:* Expiration of the timer supervising reception of S1 message from the MME (please refer to DFD for further explanation). *Report group:* Mandatory
Subfamily	S1 Setup
Report group	Mandatory
3GPP name	VS.S1ConnectionEstablishmentFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

22 S1 Traffic and throughput

Overview

Purpose

The following counters are generated to get information on S1 Traffic and throughput:

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13109 - S1 downlink throughput

This counter provides the throughput received on the S1 interfaces of the eNodeB equipment (including Ethernet headers).

Counter Information	Counter Value/Description
Counter Code	13109
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. The sampling period is 10s.
Subcounters	Not defined
Subfamily	S1 Throughput
Report group	Mandatory
3GPP name	VS.S1DLThroughput
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	kbits/s

13110 - S1 downlink packets

This counter provides the total number of packets received on the S1 interfaces of the eNodeB equipment.

Counter Information	Counter Value/Description
Counter Code	13110
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are received on the S1 interfaces of the eNodeB equipment.
Subcounters	Not defined
Subfamily	S1 Packet
Report group	Mandatory
3GPP name	VS.S1DLPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

13111 - S1 uplink throughput

This counter provides the throughput sent on the S1 interfaces of the eNodeB equipment (including Ethernet headers).

Counter Information	Counter Value/Description
Counter Code	13111
Counter Type	LOAD
Triggering (Event)	This counter is triggered when packets are sent on the S1 interfaces of the eNodeB equipment.
Subcounters	Not defined
Subfamily	S1 Throughput
Report group	Mandatory
3GPP name	VS.S1ULThroughput
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	kbits/s

13112 - S1 uplink packets

This counter provides the total number of packets sent on the S1 interfaces of the eNodeB equipment.

Counter Information	Counter Value/Description
Counter Code	13112
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each sampling period. The sampling period is 10s.
Subcounters	Not defined
Subfamily	S1 Packet
Report group	Mandatory
3GPP name	VS.S1ULPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

S1 Traffic and throughput 13112 - S1 uplink packets

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23 S1-C LPPa traffic

Overview

Purpose

The following counters are generated to get information on S1-C LPPa traffic:

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13901 - OTDOA information request

This counter provides the number of number of OTDOA Information Requests received over S1.

Counter Information	Counter Value/Description
Counter Code	13901
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of LPPA OTDOA INFORMATION REQUEST message.
Subcounters	Not defined
Subfamily	OTDOA information
Report group	Mandatory
3GPP name	VS.OtdoaInformationRequest
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT

13902 - OTDOA information failure

This counter provides the number of number of OTDOA Information Request failures.

Counter Information	Counter Value/Description
Counter Code	13902
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when LPPA OTDOA INFORMATION REQUEST message cannot be handled.
Subcounters	Failure cause. *#0: Description:* Not specified. The value of this counter is systematically set to zero. *Suffix 3GPP:* NotSpecified *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Requested Item is not supported. *Suffix 3GPP:* RequestedItemNotSupported *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory
Subfamily	OTDOA information
Report group	Mandatory
3GPP name	VS.OtdoaInformationFailure
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT

13903 - OTDOA information response

This counter provides the number of OTDOA Information response sent over S1.

Counter Information	Counter Value/Description
Counter Code	13903
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on sending of LPPA OTDOA INFORMATION RESPONSE message.
Subcounters	Not defined
Subfamily	OTDOA information
Report group	Mandatory
3GPP name	VS.OtdoaInformationResponse
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT

13904 - ECID measurement initiation request

This counter provides the number of number of ECID measurement initiation requests received over S1.

Counter Information	Counter Value/Description
Counter Code	13904
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on reception of LPPA ECID MEASUREMENT INITIATION REQUEST message.
Subcounters	Not defined
Subfamily	ECID Measurement
Report group	Mandatory
3GPP name	VS.EcidMeasurementInitiationRequest
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT

13905 - ECID measurement initiation failure

This counter provides the number of ECID measurement initiation failures.

Counter Information	Counter Value/Description
Counter Code	13905
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when LPPA ECID MEASUREMENT INITIATION REQUEST message cannot be handled and lead to the sending of LPPA ECID MEASUREMENT INITIATION FAILURE
Subcounters	Failure cause. *#1: Description:* Requested Item is not supported (LPPA ECID MEASUREMENT INITIATION REQUEST message contains Report Characteristics IE different from 'OnDemand' OR contents of Measured Quantities Item IE are all not supported by the eNodeB). *Suffix 3GPP:* RequestedItemNotSupported *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Relevant eNodeB and/or UE measurement could not be obtained. *Suffix 3GPP:* RequestedItemTemporarilyNotAvailable *Triggering Event:* CallP fails to obtain relevant measurement from eNodeB and/or UE, for instance, (eNodeB Rx-Tx time difference), and/or (UE Rx-Tx time difference), and/or MIM infos to fill E-UTRAN Access Point Position are not available). *Report group:* Mandatory
Subfamily	ECID Measurement
Report group	Mandatory
3GPP name	VS.EcidMeasurementInitiationFailure
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT

13906 - ECID measurement initiation response

This counter provides the number of ECID measurement initiation response sent over S1.

Counter Information	Counter Value/Description
Counter Code	13906
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered on sending of LPPA ECID MEASUREMENT INITIATION RESPONSE message.
Subcounters	Not defined
Subfamily	ECID Measurement
Report group	Mandatory
3GPP name	VS.EcidMeasurementInitiationResponse
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT

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24   SCTP

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Purpose

The following counters are generated to get information on SCTP:

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13601 - SCTP association establishment

This counter provides the number of times that a SCTP association establishment with the eNodeB is successful.

Counter Information	Counter Value/Description
Counter Code	13601
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered by the successful establishment of a SCTP association with the eNodeB, initiated by the eNodeB or initiated by a peer eNodeB, consecutive or not to a SCTP association failure.
Subcounters	Not defined
Subfamily	SCTP association
Report group	Mandatory
3GPP name	VS.SctpAssociationEstablishment
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	EVENT

13602 - SCTP association failure

This counter provides the number of times that eNodeB loses the connectivity on a SCTP association.

Counter Information	Counter Value/Description
Counter Code	13602
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered by the loss of a SCTP association.
Subcounters	Not defined
Subfamily	SCTP association
Report group	Mandatory
3GPP name	VS.SctpAssociationFailure
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	EVENT

13603 - S1 SCTP in octets

This counter provides the total number of KiBytes (1024 Bytes) received on the S1 interface from an MME (Length of the SCTP SDU).

Counter Information	Counter Value/Description
Counter Code	13603
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are received on a eNodeB S1-MME interface.
Subcounters	Not defined
Subfamily	S1 SCTP Traffic
Report group	Mandatory
3GPP name	VS.S1SctpInOctets
Object Class	S1Cinterface
Range	0 to 2^{32}-1
Unit	KiBytes

13604 - S1 SCTP in packets

This counter provides the total number of packets received on the S1 interface from an MME.

Counter Information	Counter Value/Description
Counter Code	13604
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are received on a eNodeB S1-MME interface.
Subcounters	Not defined
Subfamily	S1 SCTP Traffic
Report group	Mandatory
3GPP name	VS.S1SctpInPackets
Object Class	S1Cinterface
Range	0 to 2^{32}-1
Unit	Packet

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13605 - S1 SCTP out octets

This counter provides the total number of KiBytes (1024 Bytes) sent on the S1 interface from an MME (Length of the SCTP SDU).

Counter Information	Counter Value/Description
Counter Code	13605
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are sent on a eNodeB S1-MME interface.
Subcounters	Not defined
Subfamily	S1 SCTP Traffic
Report group	Mandatory
3GPP name	VS.S1SctpOutOctets
Object Class	S1Cinterface
Range	0 to 2^{32}-1
Unit	KiBytes

13606 - S1 SCTP out packets

This counter provides the total number of packets sent on the S1 interface from an MME.

Counter Information	Counter Value/Description
Counter Code	13606
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are sent on a eNodeB S1-MME interface.
Subcounters	Not defined
Subfamily	S1 SCTP Traffic
Report group	Mandatory
3GPP name	VS.S1SctpOutPackets
Object Class	S1Cinterface
Range	0 to $2^{32}-1$
Unit	Packet

13607 - X2 SCTP in octets

This counter provides the total number of KiBytes (1024 Bytes) received on the X2 interface from a remote eNodeB (Length of the SCTP SDU).

Counter Information	Counter Value/Description
Counter Code	13607
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are received on a eNodeB X2-C interface.
Subcounters	Not defined
Subfamily	X2 SCTP Traffic
Report group	Mandatory
3GPP name	VS.X2SctpInOctets
Object Class	X2Interface
Range	0 to 2^{32}-1
Unit	KiBytes

13608 - X2 SCTP in packets

This counter provides the total number of packets received on the X2 interface from a remote eNodeB.

Counter Information	Counter Value/Description
Counter Code	13608
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are received on a eNodeB X2-C interface.
Subcounters	Not defined
Subfamily	X2 SCTP Traffic
Report group	Mandatory
3GPP name	VS.X2SctpInPackets
Object Class	X2Interface
Range	0 to 2^{32}-1
Unit	Packet

13609 - X2 SCTP out octets

This counter provides the total number of KiBytes (1024 Bytes) sent on the X2 interface towards remote eNodeB (Length of the SCTP SDU).

Counter Information	Counter Value/Description
Counter Code	13609
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are sent on a eNodeB X2-C interface.
Subcounters	Not defined
Subfamily	X2 SCTP Traffic
Report group	Mandatory
3GPP name	VS.X2SctpOutOctets
Object Class	X2Interface
Range	0 to $2^{32}-1$
Unit	KiBytes

13610 - X2 SCTP out packets

This counter provides the total number of packets sent on the X2 interface towards remote eNodeB.

Counter Information	Counter Value/Description
Counter Code	13610
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are sent on a eNodeB X2-C interface.
Subcounters	Not defined
Subfamily	X2 SCTP Traffic
Report group	Mandatory
3GPP name	VS.X2SctpOutPackets
Object Class	X2Interface
Range	0 to 2^{32}-1
Unit	Packet

25 UE context management

Overview

Purpose

The following counters are generated to get information on UE context management:

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12501 - Initial context setup success

This counter provides the number of Initial Context Setup procedures that have been performed successfully.

Counter Information	Counter Value/Description
Counter Code	12501
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when INITIAL CONTEXT SETUP RESPONSE message is sent.
Subcounters	Was a 'DL NAS TRANSPORT' message received previously for the same connection?
	#0: Description: No 'DL NAS TRANSPORT' message received before INITIAL CONTEXT SETUP REQUEST.
	Suffix 3GPP: WithoutPreviousDLNASTransport
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: 'DL NAS TRANSPORT' message received before INITIAL CONTEXT SETUP REQUEST.
	Suffix 3GPP: AfterDLNASTransport
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Context Setup
Report group	Mandatory
3GPP name	VS.InitialContextSetupSuccess
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. In case of Initial Context Setup partial failure, the Initial Context Setup procedure is considered as successful, this counter is pegged.

12502 - Total initial context setup failed

This counter provides the number of Initial Context Setup procedures that have been failed.

Counter Information	Counter Value/Description
Counter Code	12502
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the INTIAL CONTEXT SETUP FAILURE message is sent to the MME, whatever the reason that made impossible to setup Initial Context, including protocol errors.
Subcounters	Not defined
Subfamily	Context Setup
Report group	Mandatory
3GPP name	VS.InitialContextSetupFailedSum
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. In case of Initial Context Setup partial failure, the Initial Context Setup procedure is considered as successful, this counter is not pegged.

12503 - Initial context setup failed

This counter provides the number of Initial Context Setup procedures that have been failed for some failure causes. In case of multiple partial E-RABs setup failure, only the last cause is used to trigger the counter.

Counter Information	Counter Value/Description
Counter Code	12503
Counter Type	CUMULATE
Triggering (Event)	Please refer to screening triggering events.
Subcounters	Failure cause.
	#0: Description: CAC failure (lack of resource) for all E-RABs.
	Suffix 3GPP: CACFailure
	Triggering Event: INITIAL CONTEXT SETUP FAILURE message sending due to CAC failure.
	Report group: Mandatory
	#1: Description: Internal eNodeB failure.
	Suffix 3GPP: InternalFailure
	Triggering Event: INITIAL CONTEXT SETUP FAILURE message sending due to internal failure.
	Report group: UEContext
	#2: Description: Timeout (no answer from the UE).
	Suffix 3GPP: Timeout
	Triggering Event: INITIAL CONTEXT SETUP FAILURE message sending due to expiration of the timer supervising reception of an answer from the UE after reception of the S1AP Initial Context Setup Request (cases of UE capability Enquiry or Security Mode Command procedures and no UE answer to the RrcConnectionReconfiguration) Please refer to DFD for further explanation.
	Report group: UEContext
	#3: Description: RRC connection re-establishment.
	Suffix 3GPP: RRCConnectionReestablishment
	Triggering Event: Reception of RrcConnectionReestablishmentRequest after reception of RRCSecurityModeComplete and before reception of RRCConnectionReconfigurationComplete.
	Report group: UEContext

Counter Information	Counter Value/Description
	#4: Description: UE fails AS security activation.
	Suffix 3GPP: SecurityActivationFailure
	Triggering Event: Reception from the UE of RrcSecurityMode-Failure or RrcSecurityModeComplete with integrity verification failure.
	Report group: UEContext
	#5: Description: Integrity verification is failed on a received UL RRC message after AS security has been activated (reception of RRC Security mode Complete with successful integrity verification).
	Suffix 3GPP: IntegrityFailure
	Triggering Event: Detection of integrity failure on a received UL RRC message.
	Report group: UEContext
	#6: Description: Security algorithm cannot be selected because none can match UE security capabilities.
	Suffix 3GPP: SecurityAlgoNotCompatible
	Triggering Event: Reception of S1-AP INITIAL CONTEXT SETUP REQUEST message from the MME when security algorithms supported by eNodeB are not compatible with security algorithms supported by UE.
	Report group: UEContext
	#7: Description: E-RAB Context allocation failure.
	Suffix 3GPP: ERABContextAllocationFailure
	Triggering Event: INITIAL CONTEXT SETUP FAILURE message sending due to E-RAB Context allocation failure.
	Report group: UEContext

Counter Information	Counter Value/Description
	#8: Description: CS fallback can not be performed.
	Suffix 3GPP: CsFallbackNotPossible
	Triggering Event: The eNodeB receives an S1AP Initial Context Setup Request containing the CsFallbackIndicator IE. CS fallback is not possible because one of the following: - the UE does not support the eligible RAT(s) for CS fallback, - the RAT or PLMN restrictions for this UE (in Handover Restriction List) are set to a forbidden RAT/ PLMN that is the CSFB target and the call is a non-emergnecy CSFB attempt, - the CS fallback features are not activated.
	Report group: UEContext
Subfamily	Context Setup
Report group	Mandatory
3GPP name	VS.InitialContextSetupFailed
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. In case of Initial Context Setup partial failure, the Initial Context Setup procedure is considered as successful, this counter is not pegged. Activations of L92024 and L92025/ L92026 are mutually exclusive on the eNodeB in LA4.0.1.

12504 - Total UE context release request

This counter provides the number of UE CONTEXT RELEASE REQUEST messages that have been sent.

Counter Information	Counter Value/Description
Counter Code	12504
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the UE CONTEXT RELEASE REQUEST message is sent.
Subcounters	Not defined
Subfamily	Context Release
Report group	Mandatory
3GPP name	VS.UEContextReleaseRequestSum
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12505 - UE context release request

This counter provides the number of UE CONTEXT RELEASE REQUEST messages that have been sent.

Counter Information	Counter Value/Description
Counter Code	12505
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when the UE CONTEXT RELEASE REQUEST message is sent.
Subcounters	Release cause. *#0: Description:* User inactivity. *Suffix 3GPP:* UserInactivity *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#1: Description:* Radio Link failure, the re-establishment timer expires (the radio connection with the UE was lost). *Suffix 3GPP:* RadioLinkFailure *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#2: Description:* Internal failure. *Suffix 3GPP:* InternalFailure *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#4: Description:* Expiration of the timer supervising reception of INITIAL CONTEXT SETUP REQUEST message. *Suffix 3GPP:* NoInitialContextSetupRequest *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory *#5: Description:* Integrity verification is failed on a received UL RRC message after AS security has been activated (reception of RRC Security mode Complete with successful integrity verification). *Suffix 3GPP:* IntegrityFailure *Triggering Event:* Please refer to common triggering event. *Report group:* Mandatory

Counter Information	Counter Value/Description
	#6: Description: All type of Inter-RAT Redirection (to HRPD, UTRA FDD, UTRA TDD, GERAN) whatever the trigger of this redirection (CS fallback or other).
	Suffix 3GPP: InterRATRedirection
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Security algorithm cannot be selected because none can match UE security capabilities: Reception of S1-AP INITIAL CONTEXT SETUP REQUEST message from the MME when security algorithms supported by eNodeB are not compatible with security algorithms supported by UE.
	Suffix 3GPP: SecurityAlgoNotCompatible
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#8: Description: Failure in Radio Interface (Security Mode Failure, Timeout or Integrity Failure).
	Suffix 3GPP: RadioInterfaceFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#9: Description: TS1RelocOverallForS1Handover timeout: Expiration of TS1RelocOverallForS1Handover timer, supervising Handover execution procedure (that is no S1AP UE CONTEXT RELEASE COMMAND from the MME).
	Suffix 3GPP: TS1RelocOverallForS1HOTimeout
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#10: Description: X2Release timeout: Expiration of X2Release timer, supervising Handover execution procedure (that is no X2AP RELEASE RESOURCE answer from the target eNodeB).
	Suffix 3GPP: X2ReleaseTimeout
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#11: Description: TS1RelocOverallForPSHandoverToUtra timeout: Expiration of TS1RelocOverall timer, supervising Handover execution procedure (that is no S1AP UE CONTEXT RELEASE COMMAND from the MME).
	Suffix 3GPP: TS1RelocOveralForPSHOToUtraTimeout
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#12: Description: Inter-frequency redirection.
	Suffix 3GPP: InterFreqRedirection
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#13: Description: Expiration of the timer supervising reception of S1AP UE CONTEXT RELEASE COMMAND from the MME during cell change order with NACC procedure.
	Suffix 3GPP: TMobilityFromEutraCCOTimeoutWithNACC
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#14: Description: Expiration of the timer supervising reception of S1AP UE CONTEXT RELEASE COMMAND from the MME during cell change order without NACC procedure.
	Suffix 3GPP: TMobilityFromEutraCCOTimeoutWithoutNACC
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#16: Description: UE Context Release Request is sent to reduce congestion.
	Suffix 3GPP: Congestion
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#17: Description: Cs fallback to 1xRTT.
	Suffix 3GPP: CsFallbackTo1xRTT
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#18: Description: TS1RelocOverallForSrvccHandoverToUtra timeout: Expiration of TS1RelocOverallForSrvccHandoverToUtra timer, supervising SRVCC Handover execution procedure (that is no S1AP UE CONTEXT RELEASE COMMAND from the MME).
	Suffix 3GPP: TS1RelocOverallForSrvccHandoverToUtraTimeout
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#19: Description: Reception of X2RLFIndication.
	Suffix 3GPP: IntraFreqRLFIndicationReceived
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Context Release
Report group	Mandatory
3GPP name	VS.UEContextReleaseRequest
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12506 - Total UE context release command

This counter provides the number of UE CONTEXT RELEASE COMMAND messages that have been received.

Counter Information	Counter Value/Description
Counter Code	12506
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when UE CONTEXT RELEASE COMMAND message is received.
Subcounters	Not defined
Subfamily	Context Release
Report group	Mandatory
3GPP name	VS.UEContextReleaseCommandSum
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces.

12507 - UE context release command

This counter provides the number of UE CONTEXT RELEASE COMMAND messages that have been received.

Counter Information	Counter Value/Description
Counter Code	12507
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when UE CONTEXT RELEASE COMMAND message is received.
Subcounters	Release cause. Note: we have to distinguish cases where Release Request has been sent previously by the eNodeB and cases where release is initiated by the MME. Among these, 'normal and 'abnormal' causes have to be separated.
	#0: Description: UE CONTEXT RELEASE COMMAND received following UE CONTEXT RELEASE REQUEST sent by the eNodeB.
	Suffix 3GPP: ResponseToReleaseRequest
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#1: Description: Cause received in UE CONTEXT RELEASE COMMAND = 'Normal release' and no UE CONTEXT RELEASE REQUEST has been sent previously.
	Suffix 3GPP: NormalRelease
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#2: Description: Cause received in UE CONTEXT RELEASE COMMAND = 'Authentication Failure' and no UE CONTEXT RELEASE REQUEST has been sent previously.
	Suffix 3GPP: AuthenticationFailure
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#3: Description: Cause received in UE CONTEXT RELEASE COMMAND = 'Detach' and no UE CONTEXT RELEASE REQUEST has been sent previously.
	Suffix 3GPP: Detach
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory

Counter Information	Counter Value/Description
	#4: Description: Cause received in UE CONTEXT RELEASE COMMAND = 'Successful Handover' and no UE CONTEXT RELEASE REQUEST has been sent previously.
	Suffix 3GPP: SuccessfulHandover
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#5: Description: Cause received in UE CONTEXT RELEASE COMMAND = 'Normal release' and no UE CONTEXT RELEASE REQUEST has been sent previously and after the successful completion of the S1 Initial Context Setup procedure.
	Suffix 3GPP: NormalReleaseAfterContextEstablished
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#6: Description: Cause received in UE CONTEXT RELEASE COMMAND = 'Detach' and no UE CONTEXT RELEASE REQUEST has been sent previously and after the successful completion of the S1 Initial Context Setup procedure.
	Suffix 3GPP: DetachAfterContextEstablished
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
	#7: Description: Cause received in UE CONTEXT RELEASE COMMAND = 'CS Fallback triggered' and no UE CONTEXT RELEASE REQUEST has been sent previously and UE context previously established.
	Suffix 3GPP: CsFallbackTriggered
	Triggering Event: Please refer to common triggering event.
	Report group: Mandatory
Subfamily	Context Release
Report group	Mandatory
3GPP name	VS.UEContextReleaseCommand
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT
Notes	Information available in LA1.0 through UPOS traces. When screenings 5 or 6 are pegged, screenings 1 or 3 are simultaneously pegged.

12508 - Local UE context release

This counter provides the number of local UE contexts releases for some causes.

Counter Information	Counter Value/Description
Counter Code	12508
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when UE context is locally released.
Subcounters	Local UE Context release cause.
	#0: Description: Release of UE context on S1 RESET procedure MME initiated.
	Suffix 3GPP: S1APResetMME
	Triggering Event: Reception of S1 RESET message from MME.
	Report group: Mandatory
	#1: Description: All MMEs accesses are disabled.
	Suffix 3GPP: S1FaultExternalFailure
	Triggering Event: Local release of the UE Context is called for the problem in 'Description'.
	Report group: Mandatory
	#2: Description: Release of UE context on S1 RESET procedure eUTRAN initiated (Modem failure).
	Suffix 3GPP: S1APResetENodeB
	Triggering Event: Sending of S1 RESET message to MME.
	Report group: Mandatory
	#3: Description: S1AP UE CONTEXT RELEASE REQUEST has been sent (with cause different from User Inactivity) and expiration of the timer supervising reception of S1AP UE CONTEXT RELEASE COMMAND message.
	Suffix 3GPP: NoContextReleaseCommand
	Triggering Event: Expiration of the timer supervising reception of S1AP UE CONTEXT RELEASE COMMAND message.
	Report group: Mandatory
	#4: Description: Release of UE context on S1 RESET procedure eUTRAN initiated case of operator eNodeB Lock.
	Suffix 3GPP: S1APResetOAM
	Triggering Event: Sending of S1 RESET message to MME.
	Report group: Mandatory

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Counter Information	Counter Value/Description
Subfamily	Context Release
Report group	Mandatory
3GPP name	VS.LocalUEContextRelease
Object Class	CellPLMN
Range	0 to 2^{32}-1
Unit	EVENT

12509 - Total local UE context release

This counter provides the number of local UE contexts releases.

Counter Information	Counter Value/Description
Counter Code	12509
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when UE context is locally released.
Subcounters	Not defined
Subfamily	Context Release
Report group	Mandatory
3GPP name	VS.LocalUEContextReleaseSum
Object Class	CellPLMN
Range	0 to $2^{32}-1$
Unit	EVENT

12510 - UE context modification attempt

This counter provides the number of UE context modification attempt.

Counter Information	Counter Value/Description
Counter Code	12510
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when eNodeB receives UE context modification request from the MME.
Subcounters	Not defined
Subfamily	UE context modification
Report group	Mandatory
3GPP name	VS.UEContextModificationAttempt
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12511 - UE context modification success

This counter provides the number of UE context modification success.

Counter Information	Counter Value/Description
Counter Code	12511
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when eNodeB sends UE context modification response to the MME.
Subcounters	Not defined
Subfamily	UE context modification
Report group	Mandatory
3GPP name	VS.UEContextModificationSuccess
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

12512 - UE context modification failure

This counter provides the number of UE context modification failure.

Counter Information	Counter Value/Description
Counter Code	12512
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when eNodeB sends UE context modification failure to the MME.
Subcounters	Failure cause. *#0: Description:* Radio Network Layer Cause: Failure in the Radio Interface Procedure. *Suffix 3GPP:* FailureInTheRadioInterfaceProcedure *Triggering Event:* Please refer to common triggering event. *Report group:* ServiceFailure *#1: Description:* Radio Network Layer Cause: Encryption and/or integrity protection algorithms not supported. *Suffix 3GPP:* EncryptionAndOrIintegrityPro-tectionAlgorithmsNotSupported *Triggering Event:* Please refer to common triggering event. *Report group:* ServiceFailure *#2: Description:* Radio Network Layer Cause: X2 Handover triggered. *Suffix 3GPP:* X2HandoverTriggered *Triggering Event:* Please refer to common triggering event. *Report group:* ServiceFailure *#3: Description:* Radio Network Layer Cause: S1 intra system Handover triggered. *Suffix 3GPP:* S1IntraSystemHandoverTriggered *Triggering Event:* Please refer to common triggering event. *Report group:* ServiceFailure *#4: Description:* Radio Network Layer Cause: S1 inter system Handover triggered. *Suffix 3GPP:* S1InterSystemHandoverTriggered *Triggering Event:* Please refer to common triggering event. *Report group:* ServiceFailure

Counter Information	Counter Value/Description
	#5: Description: Protocol Cause: Abstract Syntax Error (Reject).
	Suffix 3GPP: AbstractSyntaxError
	Triggering Event: Please refer to common triggering event.
	Report group: ServiceFailure
	#6: Description: Miscellaneous Cause: Unspecified.
	Suffix 3GPP: Unspecified
	Triggering Event: Please refer to common triggering event.
	Report group: ServiceFailure
	#7: Description: The eNodeB receives an S1AP'UE Context Modification Request containing the CsFallbackIndicator IE. CS fallback is not possible because one of the following: - the UE does not support the eligible RAT(s) for CS fallback, - the RAT or PLMN restrictions for this UE (in Handover Restriction List) are set to a forbidden RAT/ PLMN that is the CSFB target and the call is a non-emergnecy CSFB attempt, - the CS fallback features are not activated, - when the UE Context Modification Request arrives, an intra-LTE handover execution phase for the UE is already underway and too late to abort, or - the Security Key IE or UE Security Capabilities IE is also present in the UE Context Modification Request that containing the CSFB Indicator.
	Suffix 3GPP: CsFallbackNotPossible
	Triggering Event: Please refer to common triggering event.
	Report group: ServiceFailure
Subfamily	UE context modification
Report group	Mandatory
3GPP name	VS.UEContextModificationFailure
Object Class	EutranCell
Range	0 to 2^{32}-1
Unit	EVENT

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12513 - Initial context setup response

This counter provides the number of Initial Context Setup procedures that have been performed successfully, screened per UE category.

Counter Information	Counter Value/Description
Counter Code	12513
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when INITIAL CONTEXT SETUP RESPONSE message is sent.
Subcounters	UE category *#0: Description:* UE category 1 *Suffix 3GPP:* UECategory1 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare1 *#1: Description:* UE category 2 *Suffix 3GPP:* UECategory2 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare1 *#2: Description:* UE category 3 *Suffix 3GPP:* UECategory3 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare1 *#3: Description:* UE category 4 *Suffix 3GPP:* UECategory4 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare1 *#4: Description:* UE category 5 *Suffix 3GPP:* UECategory5 *Triggering Event:* Please refer to common triggering event. *Report group:* CustomerSpare1
Subfamily	Context Setup
Report group	Mandatory
3GPP name	VS.InitialContextSetupResponse
Object Class	EutranCell

Counter Information	Counter Value/Description
Range	0 to 2^{32}-1
Unit	EVENT

26 X2 Traffic and throughput

Overview

Purpose

The following counters are generated to get information on X2 Traffic and throughput:

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12909 - X2 received throughput

This counter provides the throughput received on the X2 interfaces of the eNodeB equipment (including Ethernet headers).

Counter Information	Counter Value/Description
Counter Code	12909
Counter Type	LOAD
Triggering (Event)	This counter is triggered each sampling period. The sampling period is 10s.
Subcounters	Not defined
Subfamily	X2 Throughput
Report group	Mandatory
3GPP name	VS.X2ReceivedThroughput
Object Class	ENBEquipment
Range	0 to $2^{32}-1$
Unit	kbits/s

12910 - X2 received packets

This counter provides the total number of packets received on the X2 interfaces of the eNodeB equipment.

Counter Information	Counter Value/Description
Counter Code	12910
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered when packets are received on the X2 interfaces of the eNodeB equipment.
Subcounters	Not defined
Subfamily	X2 Packet
Report group	Mandatory
3GPP name	VS.X2ReceivedPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

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12911 - X2 sent throughput

This counter provides the throughput sent on the X2 interfaces of the eNodeB equipment (including Ethernet headers).

Counter Information	Counter Value/Description
Counter Code	12911
Counter Type	LOAD
Triggering (Event)	This counter is triggered when packets are sent on the X2 interfaces of the eNodeB equipment.
Subcounters	Not defined
Subfamily	X2 Throughput
Report group	Mandatory
3GPP name	VS.X2SentThroughput
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	kbits/s

12912 - X2 sent packets

This counter provides the total number of packets sent on the X2 interfaces of the eNodeB equipment.

Counter Information	Counter Value/Description
Counter Code	12912
Counter Type	CUMULATE
Triggering (Event)	This counter is triggered each sampling period. The sampling period is 10s.
Subcounters	Not defined
Subfamily	X2 Packet
Report group	Mandatory
3GPP name	VS.X2SentPackets
Object Class	ENBEquipment
Range	0 to 2^{32}-1
Unit	Packet

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Appendix A: Abbreviations

Overview

Purpose

This appendix lists abbreviations used in this document and the expanded form of those abbreviations.

Contents

Initialisms

0-9

 3G Third Generation

 3GPP Third Generation Partnership Project

 3GPP2 Third Generation Partnership Project 2

 9453 XMS Alcatel-Lucent 9453 eXtended Management System (XMS)

 S1AP S1 Application Part

A

 Avg Averaged Value

B

 BLER Block Error Rate

C

 CC Cumulative Counters

 CUM Cumulated Value

 CQI Channel Quality Indicator

D

 DER Discrete Event Registration

 DFD Data Flow Diagram

E

 eNodeB (eNB)   evolved NodeB

 E-RAB EPS Radio Access Bearer

 eUTRAN Evolved UMTS Terrestrial Radio Access Network

F

 FDD Frequency Division Duplex

G

 GBR Guaranteed Bit Rate

 GERAN GSM Edge Radio Access Network

....

H

        HRPD High Rate Packet Data

L

        LTE Long Term Evolution

        LTE RAN (eUTRAN, E-UTRAN) Long Term Evolution radio access network

M

        Max Maximum

        Min minimum

        MME Mobile Management Entity

N

        NE Network Element

        NbEv Number of Events

O

        OAM Operation Administration and Maintenance

        OLCS Online Customer Support

P

        PDCP Packet Data Convergence Protocol

        PDU Protocol Data Unit

        PM Performance Monitoring

        PRB Physical Resource Block

        PS Packet Switched

R

        RACH Random Access Channel

        RRC Radio Resource Control

        RLC Radio Link Control

        RRH Remote Radio Head

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S

       SCTP Stream Control Transmission Protocol

       SDU Service Data Unit

       SINR Signal to Interference-plus-Noise Ratio

       SRB Signalling Radio Bearer

       SRS Signalling Route Set

T

       TDD Time Division Duplex

       TRDU TRansceiver Duplexer Unit

       TTI Transmission Time Interval

       TX Transmitter

U

       UE User equipment

       UTRA Universal Terrestrial Radio Access

V

       VLAN Virtual Local Area Network

X

       XDR XML Data Reduced

       XMS eXtended Management System

....

A-4

....

Acronyms

C

>> **CAC** Connection Admission Control

M

>> **MAC** Medium Access Control

>> **MIM** Management Information Model

N

>> **NAS** Network Access Server

R

>> **RAN** Radio Access Network

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