**3GPP TSG-SA5 Meeting #129-e *S5-201175rev1***

**Online, , 24th Feb 2020 - 4th Mar 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **28.552** | **CR** | **0184** | **rev** | **-** | **Current version:** | **16.4.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network |  |

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|  |
| ***Title:***  | Rel-16 CR TS 28.552 Add reference to RAN L2 measurement specification |
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| ***Source to WG:*** | Ericsson LM |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | 5G\_SLICE\_ePA |  | ***Date:*** | 2020-02-13 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-16 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)Rel-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | Some L2 measurements that are defined in TS 38.314 specification will be re-used in this OAM measurement specification. But reference to TS 38.314 is missing. |
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| ***Summary of change:*** | TS 38.314 has been introduced into this TS 28.552.* Added reference to TS 38.314
* Updated scope to be correct
* Added clause around differences in L2 measurement definitions
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| ***Consequences if not approved:*** | Reference to L2 measurement definitions will be missing  |
|  |  |
| ***Clauses affected:*** | 1, 2, 5.1a(new) |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **x** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **1st modified section** |

# 1 Scope

This document specifies the performance measurements for 5G networks including network slicing. Performance measurements for NG-RAN are defined in this document (clause 5.1), and some L2 measurement definitions are inherited from TS 38.314 [x]. The performance measurements for 5GC are all defined in this document (clause 5.2 to 5.6). Related KPIs are defined to those measurements are defined in TS 28.554 [8].

The performance measurements for NG-RAN apply also to NR option 3 in many cases, but not to the RRC connection related measurements which are handled by E-UTRAN for NR option 3 (those are measured according to TS 32.425 [9] and related KPIs in TS 32.451 [10]).

The performance measurements are defined based on the measurement template as described in TS 32.404 [3].

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| **Next modified section** |

# 2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

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

[2] 3GPP TS 32.401: "Telecommunication management; Performance Management (PM); Concept and requirements".

[3] 3GPP TS 32.404: "Performance Management (PM); Performance measurements - Definitions and template".

[4] 3GPP TS 23.501: "System Architecture for the 5G System".

[5] IETF RFC 5136: "Defining Network Capacity".

[6] 3GPP TS 38.473: "NG-RAN; F1 Application Protocol (F1AP)".

[7] 3GPP TS 23.502: "Procedures for the 5G System".

[8] 3GPP TS 28.554: "Management and orchestration; 5G end to end Key Performance Indicators (KPI)".

[9] 3GPP TS 32.425: "Performance Management (PM); Performance measurements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN)".

[10] 3GPP TS 32.451: "Key Performance Indicators (KPI) for Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Requirements".

[11] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP)".

[12] Void.

[13] 3GPP TS 38.423: "NG-RAN; Xn Application Protocol (XnAP)".[14] 3GPP TS 29.502: "5G System; Session Management Services; Stage 3".

[15] Void.

[16] 3GPP TS 29.244: "Technical Specification Group Core Network and Terminals; Interface between the Control Plane and the User Plane Nodes; Stage 3".

[17] ETSI GS NFV-IFA027 v2.4.1: "Network Functions Virtualisation (NFV); Management and Orchestration; Performance Measurements Specification".

[18] Void.

[19] 3GPP TS 38.214: "NR; Physical layer procedures for data".

[20] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

[21] 3GPP TS 29.518: "5G System; Access and Mobility Management Services; Stage 3".

[22] 3GPP TS 29.413: "Application of the NG Application Protocol (NGAP) to non-3GPP access".

[23] 3GPP TS 29.122: "Technical Specification Group Core Network and Terminals; T8 reference point for Northbound APIs".

[24] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".

[25] ETSI ES 202 336-12 V1.2.1: "Environmental Engineering (EE); Monitoring and control interface for infrastructure equipment (power, cooling and building environment systems used in telecommunication networks); Part 12: ICT equipment power, energy and environmental parameters monitoring information model".

[26] 3GPP TS 28.541: "Management and orchestration; 5G Network Resource Model (NRM); Stage 2 and stage 3".

[27] 3GPP TS 29.274: "Evolved General Packet Radio Service (GPRS); Tunnelling Protocol for Control plane (GTPv2-C); Stage 3".

[28] 3GPP TS 29.510: "5G System; Network function repository services; Stage 3".

[x] 3GPP TS 38.314: "NR; layer 2 measurements".

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| **Next modified section** |

# 5 Performance measurements for 5G Network Functions

## 5.1 Performance measurements for gNB

## 5.1.a Relation to RAN L2 measurement specification

When it comes to Layer 2 measurement definitions, some of the L2 measurement definitions used in the present document are referring to TS 38.314 [x]. The L2 measurement definitions in TS 38.414 [x] and in the present document have some differences:

* The measurement definitions in TS 38.314 [x] are often defined to be reported ‘per UE or per DRB’, to support MDT and Trace use cases.
* The measurements defined in the present document define L2 measurements to be reported per Managed Object class (e.g. NRCellDU) and not ‘per UE or per DRB’.

Thus, for those L2 measurements, the definition in TS 38.314 [x] is re-used in the present document, but without requirement of ‘per UE or per DRB’ reporting to be performed.

### 5.1.1 Performance measurements valid for all gNB deployment scenarios

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| **End of modified sections** |