TSG-RAN Meeting #16
Marco Island, FL, USA, 4 - 7 June 2002

RP-020322

Title: **Agreed CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.302**

Source: **TSG-RAN WG2**

Agenda item: **7.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-021452	agreed	25.302	125		R99	Correction to inconsistency between 25.302 and RRM Specifications (25.123/25.133)	F	3.12.0	3.13.0
R2-021453	agreed	25.302	126		Rel-4	Correction to inconsistency between 25.302 and RRM Specifications (25.123/25.133)	A	4.4.0	4.5.0
R2-021454	agreed	25.302	127		Rel-5	Correction to inconsistency between 25.302 and RRM Specifications (25.123/25.133)	A	5.0.0	5.1.0

3GPP TSG-RAN WG2 Meeting #29
Gyeongju, Korea, 13-17 May 2002

Tdoc R2-021452

CR-Form-v5

CHANGE REQUEST

⌘ **25.302** **CR** **125** ⌘ **rev** **-** ⌘ Current version: **3.12.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Correction to inconsistency between 25.302 and RRM specifications (25.123/25.133).	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 16.05.02
Category: ⌘	**F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘

UE Performance requirements in 25.133 and 25.123 only specify a measurement period for every measurement type, but the actual L1/L3 measurement reporting period is not explicitly defined. In any implementation the reporting rate has to be sufficient to meet the L1 measurement performance requirements, which are tested with L3 filtering disabled.
Currently there are some statements in 25.302 within the general measurement model description which may lead to non-unique interpretation of the performance requirements.

Summary of change: ⌘

The CR clarifies that

The measurement model sets the requirement on the behaviour of the measurement elaboration and reporting performed by L1 as well as filtering controlled by higher layers. The model described is not meant to be a requirement for implementation as long as the performance requirements are fulfilled.

The L1/L3 reporting rate at point B shall be sufficient to meet the performance objectives are defined in 25.123 and 25.133.

The Layer 3 filter and the parameters are standardised in 25.331.

The behaviour of the Layer 3 filter is standardised in 25.302. Each filtered result at point C shall correspond to a Layer 3 filtering performed using a reporting period equal to one measurement period at point B.

Consequences if not approved: ⌘

25.302 general description of the measurement model may lead to non-unique interpretations that prevent a correct understanding of the existing performance requirements.

Isolated impact analysis :

This CR clarifies the purpose of measurement model. Particularly,

- It requires no changes in the L3 filtering specifications contained in 25.331.
- It induces no fallouts on 25.133 and 25.123 performance specifications.

	Therefore, it has no impact on any current implementation.

Clauses affected:	⌘	9.1			
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.301 v4.4.0, CR 126 25.301 v5.0.0, CR 127	
Other comments:	⌘				

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9 Measurements provided by the physical layer

One of the key services provided by the physical layer is the measurement of various quantities, which are used to trigger or perform a multitude of functions. Both the UE and the UTRAN are required to perform a variety of measurements. The standard will not specify the method to perform these measurements or stipulate that the list of measurements provided in this clause must all be performed. While some of the measurements are critical to the functioning of the network and are mandatory for delivering the basic functionality (e.g., handover measurements, power control measurements), others may be used by the network operators in optimising the network (e.g., radio environment).
Measurements may be made periodically and reported to the upper layers or may be event-triggered (e.g., primary CCPCH becomes better than the previous best primary CCPCH). Another reporting strategy may combine the event triggered and the periodical approach (e.g. falling of link quality below a certain threshold initiates periodical reporting). The measurements are tightly coupled with the service primitives in that the primitives' parameters may constitute some of the measurements. The list and frequency of measurements, which the physical layer reports to higher layers, is described in this clause. The detailed definition of measurement control and abilities is contained in [6] for FDD and [11] for TDD. The measurement performance requirements together with accuracy, range and mapping is specified in [9] for TDD and in [10] for FDD.
The measurement quantities measured by the physical layer shall be such that the following principles are applied:

- for handover measurements, the decoding of parameters on the BCCH logical channel of monitored neighbouring cells, should not, in general, be needed for calculating the measurement result. If there is a need to adjust the measurement result with parameters broadcast on the PCCPCH, these parameters shall be provided by the UTRAN in inband measurement control messages. There may be some exceptions to this rule;
  EXAMPLE:
  It may be necessary to decode the SFN of the measured neighbouring cell for time difference measurements.
- in idle mode or in RRC connected mode using common Transport Channels, the UE shall be able to monitor cells for cell reselection, without being required to frequently decode parameters on the BCCH logical channel of the monitored neighbouring cells. The decoding frequency of these parameters, set by the cell reselection algorithm, should be such that UE standby times are not significantly decreased.

9.1 Model of physical layer measurements

This subclause describes a model for how the physical layer measurements are performed. This model applies both to the UE and Node B measurements. This model sets the requirement on the behaviour of the measurement elaboration and reporting performed by L1 as well as filtering controlled by higher layers. It is not meant to be a requirement for implementation as long as the performance requirements in [9] and [10] are fulfilled.
The measurement model for physical layer measurements is represented in the figure 7.

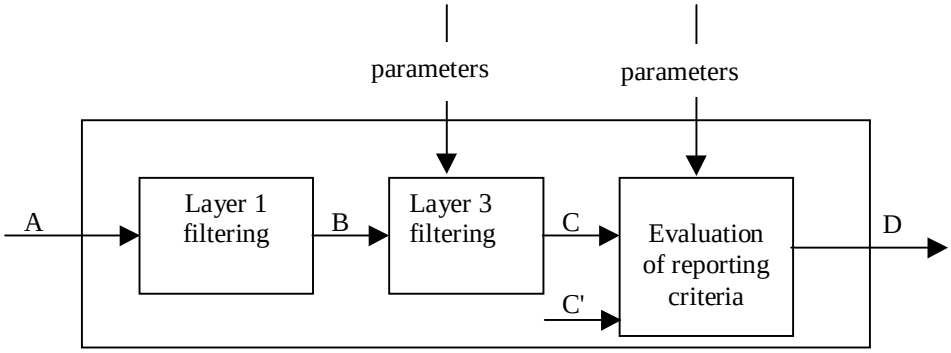

Figure 7: Measurement model

The model is described below:

- **A:** measurements (samples) internal to the physical layer in support to the measurements to be provided to higher layers;
- **Layer 1 filtering:** internal layer 1 filtering of the inputs measured at point A. Exact filtering is implementation dependant. How the measurements are actually executed in the physical layer by an implementation (inputs A and Layer 1 filtering) in not constrained by the standard i.e. the model does not state a specific sampling rate or even if the sampling is periodic or not. What the standard specifies in [9] and [10] is the performance objective and measurement period ~~and reporting rate~~ at point B in the model. The performance objectives for the physical layer measurements are specified in [9] and [10];
- **B:** A measurement reported by layer 1 after layer 1 filtering. ~~The reporting rate at point B is defined by the standard and is measurement type specific. It is chosen to be equal to the measurement period over which~~ The reporting rate at point B shall be sufficient to meet the performance objectives are defined in [9] and [10]. ~~As a consequence, by setting the layer 3 filtering to "no filtering", the performance of the layer 1 implementation can be tested. This means that the physical layer can organise its internal measurements between these reporting at point B to meet the performance requirements;~~
- **Layer 3 filtering:** Filtering performed on the measurements provided at point B. The behaviour of the Layer 3 filters are standardised and the configuration of the layer 3 filters is provided by RRC signalling (UE measurements) or NBAP signalling (Node B measurements); Each filtered result at point C shall correspond to a Layer 3 filtering performed using a reporting period equal to one measurement period at point B.;
- **C:** A measurement after processing in the layer 3 filter. The reporting rate is identical to the reporting rate at point B and is therefore also measurement type specific. Although this is not shown in the figure, one measurement can be used by a multiplicity of evaluation of reporting criteria;
- **Evaluation of reporting criteria:** This checks whether actual measurement reporting is necessary at point D i.e. whether a message need to be sent to higher layers on the radio interface or Iub interface. The evaluation can be based on more than one flow of measurements at reference point C e.g. to compare between different measurements. This is illustrated by input C, C', etc. The UE shall evaluate the reporting criteria at least every time a new measurement result is reported at point C, C' etc. The reporting criteria are standardised and the configuration is provided by RRC signalling (UE measurements) or NBAP signalling (Node B measurements). Examples are periodic reporting and event based reporting. In case periodical reporting is in use and if the reporting interval is different from the filtering period defined by the layer 3 filter, the last measurement result filtered by the L3 filter shall be used as the value of the reported result. In case event triggered reporting is in use and the reporting criteria is fulfilled, the last measurement result filtered by the L3 filter shall be used as the value for reporting criteria evaluation and as the value of the reported result. This applies also for any additional measurements that shall be reported as a consequence of the event;
- **D:** a measurement report information (message) sent on the radio or Iub interface.

3GPP TSG-RAN WG2 Meeting #29
Gyeongju, Korea, 13-17 May 2002

Tdoc R2-021453

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CHANGE REQUEST

⌘ **25.302** **CR** **126** ⌘ **rev** **-** ⌘ Current version: **4.4.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Correction to inconsistency between 25.302 and RRM specifications (25.123/25.133).	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 16.05.02
Category: ⌘	**A**	***Release:*** ⌘ REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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R99 (Release 1999)
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REL-5 (Release 5)

Reason for change: ⌘

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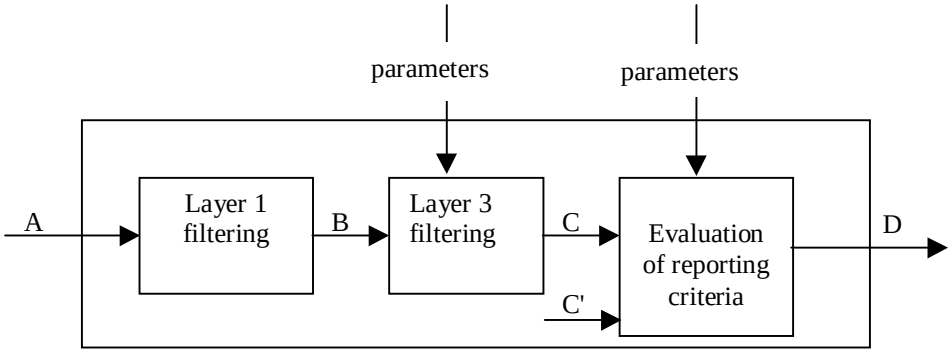

Figure 7: Measurement model

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3GPP TSG-RAN WG2 Meeting #29
Gyeongju, Korea, 13-17 May 2002

Tdoc R2-021454

CR-Form-v5

CHANGE REQUEST

⌘ **25.302** **CR** **127** ⌘ **rev** **-** ⌘ Current version: **5.0.0** ⌘

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Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	16.05.02
Category:	⌘	**A**
Release:	⌘	REL-5

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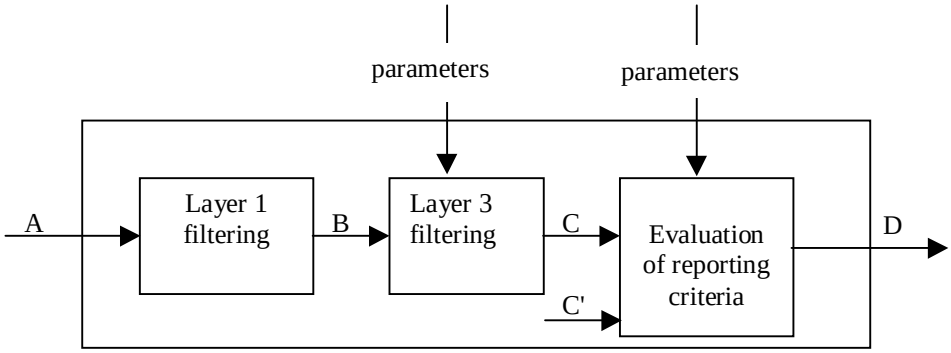

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