TSG-RAN Meeting #28
Quebec, Canada, 01-03 June 2005

RP-050306
agenda item 7.7.3

Source: **TSG-RAN WG2.**

Title: **CRs (Rel-5 & Rel-6) to WG2 specifications for the removal of Observed time difference to GSM cell**

The following CRs are in RP-050306:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.302	0155	-	Rel-5	Feature Clean Up: Removal of observed time difference to GSM cell	C	5.7.0	5.8.0	R2-051595	TEI5
25.302	0156	-	Rel-6	Feature Clean Up: Removal of observed time difference to GSM cell	C	6.3.0	6.4.0	R2-051596	TEI5
25.331	2582	-	Rel-5	Feature Clean Up: Removal of observed time difference to GSM cell	C	5.12.1	5.13.0	R2-051597	TEI5
25.331	2583	-	Rel-6	Feature Clean Up: Removal of observed time difference to GSM cell	C	6.5.0	6.6.0	R2-051598	TEI5

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CHANGE REQUEST

| ⌘ | **25.302** CR **0155** | ⌘ **rev** | **-** | ⌘ | Current version: | **5.7.0** | ⌘ |

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

Proposed change affects: UICC apps⌘ ☐   ME **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Feature Clean Up: Removal of observed time difference to GSM cell	
Source: ⌘	RAN WG2	
Work item code:⌘	TEI5	**Date:** ⌘ 03/05/2005

Category: ⌘	**C**	**Release:** ⌘ Rel-5
	Use one of the following categories:	*Use one of the following releases:*
	F (correction)	*Ph2 (GSM Phase 2)*
	A (corresponds to a correction in an earlier release)	*R96 (Release 1996)*
	B (addition of feature),	*R97 (Release 1997)*
	C (functional modification of feature)	*R98 (Release 1998)*
	D (editorial modification)	*R99 (Release 1999)*
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.	*Rel-4 (Release 4)*
		Rel-5 (Release 5)
		Rel-6 (Release 6)
		Rel-7 (Release 7)

Reason for change: ⌘	RAN#27 decided with RP-050144 to remove the measurement of observed time difference to GSM cell from Rel5 onwards.
Summary of change:⌘	The measurement of observed time difference to GSM cell is removed from the specification.
	Isolated impact analysis: The CR has isolated impact as it only affects the measurement of observed time difference to GSM cell.
Consequences if not approved: ⌘	RAN#27 decision would be violated.

Clauses affected:	⌘	9.2.2	

		Y	N		
Other specs	⌘	X		Other core specifications	⌘ 25.215, 25.331, 25.133
affected:			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:
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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.

9.2.2 ~~Observed time difference to GSM cell~~Void

~~This measure is mandatory for UE capable of handover to GSM.~~

~~Measurement~~	~~Observed time difference to GSM cell~~
~~Source~~	~~L1 (UE)~~
~~Destination~~	~~RRC (RNC) for maintenance and handover to GSM~~
~~Reporting Trigger~~	~~On-demand, Event-triggered~~
~~Description~~	~~Time difference between a UTRA cell and a GSM cell.~~

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CHANGE REQUEST

⌘ **25.302** CR **0156** ⌘**rev** **-** ⌘ Current version: **6.3.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Feature Clean Up: Removal of observed time difference to GSM cell	
Source: ⌘	RAN WG2	
Work item code:⌘	TEI5	***Date:*** ⌘ 03/05/2005
Category: ⌘	**C**	***Release:*** ⌘ Rel-6

Use <u>one</u> 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 <u>one</u> of the following releases:
   Ph2   *(GSM Phase 2)*
   R96   *(Release 1996)*
   R97   *(Release 1997)*
   R98   *(Release 1998)*
   R99   *(Release 1999)*
   Rel-4   *(Release 4)*
   Rel-5   *(Release 5)*
   Rel-6   *(Release 6)*
   Rel-7   *(Release 7)*

Reason for change: ⌘	RAN#27 decided with RP-050144 to remove the measurement of observed time difference to GSM cell from Rel5 onwards.
Summary of change:⌘	The measurement of observed time difference to GSM cell is removed from the specification. **Isolated impact analysis:** The CR has isolated impact as it only affects the measurement of observed time difference to GSM cell.
Consequences if not approved: ⌘	RAN#27 decision would be violated.

Clauses affected: ⌘	9.2.2

	Y	N		
Other specs ⌘	X		Other core specifications ⌘	25.215, 25.331, 25.133
affected:		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘	

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9.2.2 ~~Observed time difference to GSM cell~~Void

~~This measure is mandatory for UE capable of handover to GSM.~~

~~Measurement~~	~~Observed time difference to GSM cell~~
~~Source~~	~~L1 (UE)~~
~~Destination~~	~~RRC (RNC) for maintenance and handover to GSM~~
~~Reporting Trigger~~	~~On-demand, Event-triggered~~
~~Description~~	~~Time difference between a UTRA cell and a GSM cell.~~

CR-Form-v7.1

CHANGE REQUEST

⌘   **25.331** CR **2582**   ⌘**rev**   **-**   ⌘   Current version: **5.12.1** ⌘

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

Proposed change affects: UICC apps⌘ ☐   ME **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Feature Clean Up: Removal of observed time difference to GSM cell	
Source: ⌘	RAN WG2	
Work item code:⌘	TEI5	***Date:*** ⌘ 03/05/2005
Category: ⌘	**C**	***Release:*** ⌘ Rel-5

Use one of the following categories:	*Use one of the following releases:*
F *(correction)*	*Ph2* *(GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96* *(Release 1996)*
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C *(functional modification of feature)*	*R98* *(Release 1998)*
D *(editorial modification)*	*R99* *(Release 1999)*
Detailed explanations of the above categories can	*Rel-4* *(Release 4)*
be found in 3GPP TR 21.900.	*Rel-5* *(Release 5)*
	Rel-6 *(Release 6)*
	Rel-7 *(Release 7)*

Reason for change: ⌘	RAN#27 decided with RP-050144 to remove the measurement of observed time difference to GSM cell from Rel5 onwards.
Summary of change:⌘	The measurement of observed time difference to GSM cell is removed from the specification. **Isolated impact analysis:** The CR has isolated impact as it only affects the measurement of observed time difference to GSM cell.
Consequences if not approved: ⌘	RAN#27 decision would be violated.

Clauses affected: ⌘	8.6.7.2, 8.6.7.6, 10.3.7.26, 10.3.7.29, 10.3.7.32, 10.3.7.52, 11.3, 14.3.0c, 14.3.2.1, 14.3.2.2, 14.3.2.3

	Y	**N**		
Other specs ⌘	**X**		Other core specifications ⌘	25.215, 25.302, 25.133
affected:		**X**	Test specifications	
		X	O&M Specifications	
Other comments: ⌘				

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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.

8.6.7.2 Filter coefficient

If the IE "Filter coefficient" is received the UE shall, depending on the measurement quantity (see Table 8.6.7.2), apply filtering of the measurements for that measurement quantity according to the formula below. This filtering shall be performed by the UE before UE event evaluation. The UE shall depending on the reporting quantity (see Table 8.6.7.2), also filter the measurements reported in the IE "Measured results". The filtering shall not be performed for the measurements reported in the IE "Measured results on RACH" and for cell-reselection in connected or idle mode.

The filtering shall be performed according to the following formula.

$$F_n = (1-a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows:

F_n is the updated filtered measurement result

F_{n-1} is the old filtered measurement result

M_n is the latest received measurement result from physical layer measurements, the unit used for M_n is the same unit as the reported unit in the MEASUREMENT REPORT message or the unit used in the event evaluation.

$a = 1/2^{(k/2)}$, where k is the parameter received in the IE "Filter coefficient".

> NOTE: if k is set to 0 that will mean no layer 3 filtering.

In order to initialise the averaging filter, F_0 is set to M_1 when the first measurement result from the physical layer measurement is received.

The physical layer measurement results are sampled once every measurement period. The measurement period and the accuracy for a certain measurement is defined in [19] and [20].

Table 8.6.7.2 lists for all measurement quantities and reporting quantities if L3-filtering is applicable or not and used L3-filtering type for each measurement quantity.

Table 8.6.7.2: L3 filtering applicable for each measurement quantity and reporting quantity

Measurement- / Reporting quantity	L3-filtering applicable	Linear or logarithmic filtering	Comment
Pathloss	Yes	Log	
Cell synchronisation information	No	-	
Cell Identity	No	-	
Frequency quality estimate	No	-	Although the frequency quality estimate itself is not filtered, the inputs to the frequency quality estimate calculation (CPICH Ec/N0 or CPICH RSCP or P-CCPCH RSCP) are filtered
UTRA carrier RSSI	Yes	Log	
GSM carrier RSSI	Yes	Log	
~~Observed time difference to GSM cell~~	~~No~~	~~-~~	
UE transmitted power	Yes	Log	
FDD			
> UE Rx-Tx time difference	No	-	
> CPICH Ec/N0	Yes	Log	
> CPICH RSCP	Yes	Log	
TDD			
> Primary CCPCH RSCP	Yes	Log	
> Proposed TGSN	No	-	
> Timeslot ISCP	Yes	Log	
> TADV (1.28 Mcps TDD)	No	-	

> Applied TA (3.84 Mcps TDD)	No	-	

The UE shall support 2 different layer 3 filters per measurement type defined in subclause 8.4.0 (i.e. the UE shall be capable to apply at least 2 different L3 filters to intra-frequency measurement results, at least 2 different L3 filters to inter-frequency measurement results, etc.). If a MEASUREMENT CONTROL message is received that would require the UE to configure more than 2 different layer 3 filters, the UE may:

> 1> set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.6 Inter-RAT reporting quantity

If the IE "Inter-RAT reporting quantity" is received by the UE, the UE shall:

> 1> store the content of the IE to the variable MEASUREMENT_IDENTITY.

If the IE "Inter-RAT measurement quantity" is received and CHOICE system is GSM, the UE shall check each quantity in the GSM choice. The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Inter-RAT reporting quantity" with the following restrictions:

> 1> if the UE has not confirmed the BSIC of the measured cell:
>
>> 2> if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" is active and according to its capabilities the UE requires compressed mode to measure this, the UE is not required to include the "inter-RAT cell id" ~~nor "Observed time difference to GSM cell"~~ in the IE "Inter-RAT measured results list", when a MEASUREMENT REPORT is triggered.
>
> 1> if the UE has confirmed the BSIC of the measured cell, then:
>
>> 2> if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" nor "BSIC re-confirmation" is active and according to its capabilities the UE requires compressed mode to measure this, the UE is not required to include the "inter-RAT cell id" ~~nor "Observed time difference to GSM cell"~~ in the IE "Inter-RAT measured results", when a MEASUREMENT REPORT is triggered. If no compressed mode pattern sequence with measurement purpose "GSM carrier RSSI measurements" is active and according to its capabilities the UE requires compressed mode to measure this, the UE may include "inter-RAT cell id" ~~or "Observed time difference to GSM cell"~~ in MEASUMENT REPORT without "GSM carrier RSSI" even if it is defined in the IE "Inter-RAT reporting quantity".
>
> 1> if the IE "UTRAN estimated quality" is set to "TRUE":
>
>> 2> ignore that IE.
>
> 1> ~~if IE "Observed time difference to GSM cell Reporting indicator " is set to "TRUE":~~
>
>> 2> ~~include optional IE "Observed time difference to GSM cell" with the value set to the time difference to that GSM cell for the GSM cells that have a BSIC that is "verified", and that match any of the BCCH ARFCN and BSIC combinations in the list of inter-RAT cells that the UE has received in IE "Inter-RAT cell info list". Observed time difference to GSM cells with "non-verified" BSIC shall not be included.~~
>
> 1> if IE "GSM Carrier RSSI" is set to "TRUE":
>
>> 2> include optional IE "GSM Carrier RSSI" with a value set to the measured RXLEV to that GSM cell in IE "Inter-RAT measured results list". If no compressed mode pattern sequence specified with measurement purpose "GSM carrier RSSI measurements" is active and according to its capabilities the UE requires compressed mode to measure this, the UE is not required to include the "GSM carrier RSSI" in the IE " Inter-RAT measured results list ", when a MEASUREMENT REPORT is triggered.
>
> 1> if the BSIC of reported GSM cell is "verified":
>
>> 2> set the CHOICE BSIC to "Verified BSIC" and IE "inter-RAT cell id" to the value that GSM cell had in the IE "Inter-RAT cell info list".
>
> 1> if the BSIC of reported GSM cell is "non-verified":

2> set the CHOICE BSIC to "Non verified BSIC" and the IE "BCCH ARFCN" to the value of that GSM cells ARFCN.

The requirements for a cell to be considered "verified" or "non-verified" can be found in [19].

10.3.7.26 Inter-RAT measured results list

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Inter-RAT measurement results	OP	1 to <maxOtherRAT-16>		
>CHOICE *system*	MP			One spare value is needed.
>>GSM				
>>>Measured GSM cells	MP	1 to <maxReportedGSMCells>		
>>>>GSM carrier RSSI	OP		bit string(6)	RXLEV is mapped to a value between 0 and 63, [46]. When mapping the RXLEV value to the RSSI bit string, the first/leftmost bit of the bit string contains the most significant bit.
>>>>CHOICE *BSIC*	MP			
>>>>>Verified BSIC				
>>>>>>inter-RAT cell id	MP		Integer(0..<maxCellMeas>-1)	
>>>>>Non verified BSIC				
>>>>>>BCCH ARFCN	MP		Integer (0..1023)	[45]
>>>>Observed time difference to GSM cell	OP		Observed time difference to GSM cell 10.3.7.52	

10.3.7.29 Inter-RAT measurement quantity

The quantity the UE shall measure in case of inter-RAT measurement. It also includes the filtering of the measurements.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Measurement quantity for UTRAN quality estimate	OP		Intra-frequency measurement quantity 10.3.7.38	
CHOICE *system*	MP			
>GSM				
>>Measurement quantity	MP		Enumerated(GSM Carrier RSSI)	
>>Filter coefficient	MP		Filter coefficient 10.3.7.9	
>>BSIC verification required	MP		Enumerated(required, not required)	
>IS2000				
>>TADD E_c/I_0	MP		Integer(0..63)	Admission criteria for neighbours, see subclause

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				2.6.6.2.6 of TIA/EIA/IS-2000.5
>>TCOMP E_c/I_0	MP		Integer(0..15)	Admission criteria for neighbours, see subclause 2.6.6.2.5.2 of TIA/EIA/IS-2000.5
>>SOFT SLOPE	OP		Integer(0..63)	Admission criteria for neighbours, see subclause 2.6.6.2.3 and 2.6.6.2.5.2 of TIA/EIA/IS-2000.5
>>ADD_INTERCEPT	OP		Integer(0..63)	Admission criteria for neighbours, see subclause 2.6.6.2.5.2 of TIA/EIA/IS-2000.5

~~The IE "BSIC verification required" must be set to "required" if IE "Observed time difference to GSM cell Reporting indicator" in IE "Inter-RAT reporting quantity "is set to "true".~~

10.3.7.32 Inter-RAT reporting quantity

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UTRAN estimated quality	MP		Boolean	This parameter is not used in this release and should be set to FALSE.
CHOICE *system*	MP			
>GSM				
~~>>Observed time difference to GSM cell Reporting indicator~~	~~MP~~		~~Boolean~~	
>>GSM Carrier RSSI Reporting indicator	MP		Boolean	

10.3.7.52 ~~Observed time difference to GSM cell~~Void

~~Information Element/Group name~~	~~Need~~	~~Multi~~	~~Type and reference~~	~~Semantics description~~
~~Observed time difference to GSM cell~~	~~OP~~		~~Integer(0,,4095)~~	~~According to GSM_TIME in [19] and [20]~~

11.3 Information element definitions

```
-- **************************************************
--
--     MEASUREMENT INFORMATION ELEMENTS (10.3.7)
--
-- **************************************************

GSM-MeasuredResults ::=               SEQUENCE {
    gsm-CarrierRSSI                       GSM-CarrierRSSI                 OPTIONAL,
    -- dummy is not used in this version of the specification, it should
    -- not be sent and if received it should be ignored.
    dummy                                 INTEGER (46..173)              OPTIONAL,
    bsicReported                          BSICReported,
    -- dummy2 is not used in this version of the specification, it should
    -- not be sent and if received it should be ignored.
    ObservedTimeDifferenceToGSMdummy2     ObservedTimeDifferenceToGSM    OPTIONAL
}
```

```
InterRATReportingQuantity ::=    SEQUENCE {
   utran-EstimatedQuality             BOOLEAN,
   ratSpecificInfo                   CHOICE {
      gsm                                SEQUENCE {
      -- dummy and dummy2 are not used in this version of the specification, they should
      -- not be sent and if received they should be ignored.
         dummy                              BOOLEAN,
         observedTimeDifferenceGSMdummy2         BOOLEAN,
         gsm-Carrier-RSSI                   BOOLEAN
      }
   }
}


ObservedTimeDifferenceToGSM ::=     INTEGER (0..4095)
```

14.3.0c   Inter-RAT reporting quantities

The quantities that the UE shall report to UTRAN when the event is triggered for an inter-RAT measurement are given by the IE "Inter-RAT reporting quantity" stored for that measurement, and can be the following:

In the case the other RAT is GSM:

> 1   Observed time difference to the GSM cell

>> The reference cell in the UTRAN is one of the cells in the active set.

21 GSM carrier RSSI

A description of those values can be found in [7] and [8].

14.3.2   GSM measurements in compressed mode

14.3.2.1   GSM RSSI measurements

The UE shall perform GSM RSSI measurements in the gaps of compressed mode pattern sequence specified for GSM RSSI measurement purpose. The UE cannot be required to measure "Observed time difference to GSM" in gaps specified for this purpose.

14.3.2.2   Initial BSIC identification

The UE shall perform Initial BSIC identification in compressed mode pattern sequence specified for Initial BSIC identification measurement purpose.

The parameter "N identify abort" in the IE "DPCH compressed mode info" indicates the maximum number of patterns that the UE shall use to attempt to decode the unknown BSIC of the GSM cell in the initial BSIC identification procedure.

The UE shall be able to measure the "Observed time difference to GSM cell" during a compressed mode pattern sequence configured for this purpose.

The BSIC identification procedure is defined in detail in [19].

14.3.2.3   BSIC re-confirmation

The UE shall perform BSIC re-confirmation in compressed mode pattern sequence specified for BSIC re-confirmation measurement purpose.

The parameter "T reconfirm abort" in the IE "DPCH compressed mode info" indicates the maximum time allowed for the re-confirmation of the BSIC of one GSM cell in the BSIC re-confirmation procedure.

The UE shall be able to measure the "Observed time difference to GSM cell" during a compressed mode pattern sequence configured for this purpose.

The BSIC re-confirmation procedure is defined in detail in [19].

CR-Form-v7.1

CHANGE REQUEST

⌘	**25.331** CR **2583**	⌘**rev**	**-**	⌘	Current version:	**6.5.0**	⌘

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Proposed change affects: UICC apps⌘ ☐   ME **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Feature Clean Up: Removal of observed time difference to GSM cell

Source:	⌘	RAN WG2

Work item code: ⌘	TEI5		*Date:* ⌘	03/05/2005

Category:	⌘	**C**		*Release:* ⌘	Rel-6

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Reason for change: ⌘	RAN#27 decided with RP-050144 to remove the measurement of observed time difference to GSM cell from Rel5 onwards.

Summary of change: ⌘	The measurement of observed time difference to GSM cell is removed from the specification. **Isolated impact analysis:** The CR has isolated impact as it only affects the measurement of observed time difference to GSM cell.

Consequences if not approved:	⌘	RAN#27 decision would be violated.

Clauses affected:	⌘	8.6.7.2, 8.6.7.6, 10.3.7.26, 10.3.7.29, 10.3.7.32, 10.3.7.52, 11.3, 14.3.0c, 14.3.2.1, 14.3.2.2, 14.3.2.3

		Y	N			
Other specs	⌘	X		Other core specifications	⌘	25.215, 25.302, 25.133
affected:			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

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8.6.7.2   Filter coefficient

If the IE "Filter coefficient" is received the UE shall, depending on the measurement quantity (see Table 8.6.7.2), apply filtering of the measurements for that measurement quantity according to the formula below. This filtering shall be performed by the UE before UE event evaluation. The UE shall depending on the reporting quantity (see Table 8.6.7.2), also filter the measurements reported in the IE "Measured results". The filtering shall not be performed for the measurements reported in the IE "Measured results on RACH" and for cell-reselection in connected or idle mode.

The filtering shall be performed according to the following formula.

$$F_n = (1-a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows:

F_n is the updated filtered measurement result

F_{n-1} is the old filtered measurement result

M_n is the latest received measurement result from physical layer measurements, the unit used for M_n is the same unit as the reported unit in the MEASUREMENT REPORT message or the unit used in the event evaluation.

$a = 1/2^{(k/2)}$, where k is the parameter received in the IE "Filter coefficient".

NOTE: if k is set to 0 that will mean no layer 3 filtering.

In order to initialise the averaging filter, F_0 is set to M_1 when the first measurement result from the physical layer measurement is received.

The physical layer measurement results are sampled once every measurement period. The measurement period and the accuracy for a certain measurement is defined in [19] and [20].

Table 8.6.7.2 lists for all measurement quantities and reporting quantities if L3-filtering is applicable or not and used L3-filtering type for each measurement quantity.

Table 8.6.7.2: L3 filtering applicable for each measurement quantity and reporting quantity

Measurement- / Reporting quantity	L3-filtering applicable	Linear or logarithmic filtering	Comment
Pathloss	Yes	Log	
Cell synchronisation information	No	-	
Cell Identity	No	-	
Frequency quality estimate	No	-	Although the frequency quality estimate itself is not filtered, the inputs to the frequency quality estimate calculation (CPICH Ec/N0 or CPICH RSCP or P-CCPCH RSCP) are filtered
UTRA carrier RSSI	Yes	Log	
GSM carrier RSSI	Yes	Log	
~~Observed time difference to GSM cell~~	~~No~~	~~-~~	
UE transmitted power	Yes	Log	
FDD			
> UE Rx-Tx time difference	No	-	
> CPICH Ec/N0	Yes	Log	
> CPICH RSCP	Yes	Log	
TDD			
> Primary CCPCH RSCP	Yes	Log	
> Proposed TGSN	No	-	
> Timeslot ISCP	Yes	Log	
> TADV (1.28 Mcps TDD)	No	-	

> Applied TA (3.84 Mcps TDD)	No	-	

The UE shall support 2 different layer 3 filters per measurement type defined in subclause 8.4.0 (i.e. the UE shall be capable to apply at least 2 different L3 filters to intra-frequency measurement results, at least 2 different L3 filters to inter-frequency measurement results, etc.). If a MEASUREMENT CONTROL message is received that would require the UE to configure more than 2 different layer 3 filters, the UE may:

1> set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.6   Inter-RAT reporting quantity

If the IE "Inter-RAT reporting quantity" is received by the UE, the UE shall:

1> store the content of the IE to the variable MEASUREMENT_IDENTITY.

If the IE "Inter-RAT measurement quantity" is received and CHOICE system is GSM, the UE shall check each quantity in the GSM choice. The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Inter-RAT reporting quantity" with the following restrictions:

1> if the UE has not confirmed the BSIC of the measured cell:

2> if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" is active and according to its capabilities the UE requires compressed mode to measure this, the UE is not required to include the "inter-RAT cell id" ~~nor "Observed time difference to GSM cell"~~ in the IE "Inter-RAT measured results list", when a MEASUREMENT REPORT is triggered.

1> if the UE has confirmed the BSIC of the measured cell, then:

2> if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" nor "BSIC re-confirmation" is active and according to its capabilities the UE requires compressed mode to measure this, the UE is not required to include the "inter-RAT cell id" ~~nor "Observed time difference to GSM cell"~~ in the IE "Inter-RAT measured results", when a MEASUREMENT REPORT is triggered. If no compressed mode pattern sequence with measurement purpose "GSM carrier RSSI measurements" is active and according to its capabilities the UE requires compressed mode to measure this, the UE may include "inter-RAT cell id" ~~or "Observed time difference to GSM cell"~~ in MEASUMENT REPORT without "GSM carrier RSSI" even if it is defined in the IE "Inter-RAT reporting quantity".

1> if the IE "UTRAN estimated quality" is set to "TRUE":

2> ignore that IE.

1> ~~if IE "Observed time difference to GSM cell Reporting indicator " is set to "TRUE":~~

2> ~~include optional IE "Observed time difference to GSM cell" with the value set to the time difference to that GSM cell for the GSM cells that have a BSIC that is "verified", and that match any of the BCCH ARFCN and BSIC combinations in the list of inter-RAT cells that the UE has received in IE "Inter-RAT cell info list". Observed time difference to GSM cells with "non-verified" BSIC shall not be included.~~

1> if IE "GSM Carrier RSSI" is set to "TRUE":

2> include optional IE "GSM Carrier RSSI" with a value set to the measured RXLEV to that GSM cell in IE "Inter-RAT measured results list". If no compressed mode pattern sequence specified with measurement purpose "GSM carrier RSSI measurements" is active and according to its capabilities the UE requires compressed mode to measure this, the UE is not required to include the "GSM carrier RSSI" in the IE " Inter-RAT measured results list ", when a MEASUREMENT REPORT is triggered.

1> if the BSIC of reported GSM cell is "verified":

2> set the CHOICE BSIC to "Verified BSIC" and IE "inter-RAT cell id" to the value that GSM cell had in the IE "Inter-RAT cell info list".

1> if the BSIC of reported GSM cell is "non-verified":

2> set the CHOICE BSIC to "Non verified BSIC" and the IE "BCCH ARFCN" to the value of that GSM cells ARFCN.

The requirements for a cell to be considered "verified" or "non-verified" can be found in [19].

10.3.7.26   Inter-RAT measured results list

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Inter-RAT measurement results	OP	1 to <maxOtherRAT-16>		
>CHOICE *system*	MP			One spare value is needed.
>>GSM				
>>>Measured GSM cells	MP	1 to <maxReportedGSMCells>		
>>>>GSM carrier RSSI	OP		bit string(6)	RXLEV is mapped to a value between 0 and 63, [46]. When mapping the RXLEV value to the RSSI bit string, the first/leftmost bit of the bit string contains the most significant bit.
>>>>CHOICE *BSIC*	MP			
>>>>>Verified BSIC				
>>>>>>inter-RAT cell id	MP		Integer(0..<maxCellMeas>-1)	
>>>>>Non verified BSIC				
>>>>>>BCCH ARFCN	MP		Integer (0..1023)	[45]
>>>>Observed time difference to GSM cell	OP		Observed time difference to GSM cell 10.3.7.52	

10.3.7.29   Inter-RAT measurement quantity

The quantity the UE shall measure in case of inter-RAT measurement. It also includes the filtering of the measurements.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Measurement quantity for UTRAN quality estimate	OP		Intra-frequency measurement quantity 10.3.7.38	
CHOICE *system*	MP			
>GSM				
>>Measurement quantity	MP		Enumerated(GSM Carrier RSSI)	
>>Filter coefficient	MP		Filter coefficient 10.3.7.9	
>>BSIC verification required	MP		Enumerated(required, not required)	
>IS2000				
>>TADD E_c/I_0	MP		Integer(0..63)	Admission criteria for neighbours, see subclause

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				2.6.6.2.6 of TIA/EIA/IS-2000.5
>>TCOMP E_c/I_0	MP		Integer(0..15)	Admission criteria for neighbours, see subclause 2.6.6.2.5.2 of TIA/EIA/IS-2000.5
>>SOFT SLOPE	OP		Integer(0..63)	Admission criteria for neighbours, see subclause 2.6.6.2.3 and 2.6.6.2.5.2 of TIA/EIA/IS-2000.5
>>ADD_INTERCEPT	OP		Integer(0..63)	Admission criteria for neighbours, see subclause 2.6.6.2.5.2 of TIA/EIA/IS-2000.5

The IE "BSIC verification required" must be set to "required" if IE "Observed time difference to GSM cell Reporting indicator" in IE "Inter-RAT reporting quantity "is set to "true".

10.3.7.32　Inter-RAT reporting quantity

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UTRAN estimated quality	MP		Boolean	This parameter is not used in this release and should be set to FALSE.
CHOICE *system*	MP			
>GSM				
>>Observed time difference to GSM cell Reporting indicator	MP		Boolean	
>>GSM Carrier RSSI Reporting indicator	MP		Boolean	

10.3.7.52　Observed time difference to GSM cellVoid

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Observed time difference to GSM cell	OP		Integer(0,,4095)	According to GSM_TIME in [19] and [20]

11.3　Information element definitions

```
-- **************************************************
--
--     MEASUREMENT INFORMATION ELEMENTS (10.3.7)
--
-- **************************************************

GSM-MeasuredResults ::=                 SEQUENCE {
    gsm-CarrierRSSI                     GSM-CarrierRSSI                     OPTIONAL,
    -- dummy is not used in this version of the specification, it should
    -- not be sent and if received it should be ignored.
    dummy                               INTEGER (46..173)                  OPTIONAL,
    bsicReported                        BSICReported,
    -- dummy2 is not used in this version of the specification, it should
    -- not be sent and if received it should be ignored.
    ObservedTimeDifferenceToGSMdummy2   ObservedTimeDifferenceToGSM        OPTIONAL
}
```

```
InterRATReportingQuantity ::=   SEQUENCE {
   utran-EstimatedQuality             BOOLEAN,
   ratSpecificInfo                    CHOICE {
      gsm                                SEQUENCE {
      -- dummy and dummy2 are not used in this version of the specification, they should
      -- not be sent and if received they should be ignored.
         dummy                              BOOLEAN,
         observedTimeDifferenceGSMdummy2       BOOLEAN,
         gsm-Carrier-RSSI                   BOOLEAN
      }
   }
}

ObservedTimeDifferenceToGSM ::=      INTEGER (0..4095)
```

14.3.0c Inter-RAT reporting quantities

The quantities that the UE shall report to UTRAN when the event is triggered for an inter-RAT measurement are given by the IE "Inter-RAT reporting quantity" stored for that measurement, and can be the following:

In the case the other RAT is GSM:

> 1   Observed time difference to the GSM cell
>
> > The reference cell in the UTRAN is one of the cells in the active set.

21 GSM carrier RSSI

A description of those values can be found in [7] and [8].

14.3.2   GSM measurements in compressed mode

14.3.2.1   GSM RSSI measurements

The UE shall perform GSM RSSI measurements in the gaps of compressed mode pattern sequence specified for GSM RSSI measurement purpose. The UE cannot be required to measure "Observed time difference to GSM" in gaps specified for this purpose.

14.3.2.2   Initial BSIC identification

The UE shall perform Initial BSIC identification in compressed mode pattern sequence specified for Initial BSIC identification measurement purpose.

The parameter "N identify abort" in the IE "DPCH compressed mode info" indicates the maximum number of patterns that the UE shall use to attempt to decode the unknown BSIC of the GSM cell in the initial BSIC identification procedure.

The UE shall be able to measure the "Observed time difference to GSM cell" during a compressed mode pattern sequence configured for this purpose.

The BSIC identification procedure is defined in detail in [19].

14.3.2.3   BSIC re-confirmation

The UE shall perform BSIC re-confirmation in compressed mode pattern sequence specified for BSIC re-confirmation measurement purpose.

The parameter "T reconfirm abort" in the IE "DPCH compressed mode info" indicates the maximum time allowed for the re-confirmation of the BSIC of one GSM cell in the BSIC re-confirmation procedure.

The UE shall be able to measure the "Observed time difference to GSM cell" during a compressed mode pattern sequence configured for this purpose.

The BSIC re-confirmation procedure is defined in detail in [19].