TSG-RAN Meeting #17   *RP-020538*
Biarritz, France, 3 - 6 September 2002

Title: **Agreed CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.321**

Source: **TSG-RAN WG2**

Agenda item: **7.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Versio	Versio
R2-022348	agreed	25.321	128		R99	MAC TVM Corrections	F	3.12.0	3.13.0
R2-022349	agreed	25.321	129		Rel-4	MAC TVM Corrections	A	4.5.0	4.6.0
R2-022350	agreed	25.321	130		Rel-5	MAC TVM Corrections	A	5.1.0	5.2.0
R2-022351	agreed	25.321	131		R99	MAC header for DTCH and DCCH	F	3.12.0	3.13.0
R2-022352	agreed	25.321	132		Rel-4	MAC header for DTCH and DCCH	A	4.5.0	4.6.0
R2-022353	agreed	25.321	133		Rel-5	MAC header for DTCH and DCCH	A	5.1.0	5.2.0

3GPP TSG-RAN WG2 Meeting #31
Arlanda, Sweden, 19-23 August 2002

Tdoc ⌘ *R2-022348*

CR-Form-v7

CHANGE REQUEST

| | ⌘ | **25.321** CR **128** | ⌘**rev** | **-** | ⌘ | Current version: | **3.c.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:	⌘	MAC TVM Corrections
Source:	⌘	TSG RAN WG2
Work item code: ⌘	TEI	**Date:** ⌘ 13/08/2002

Category:	⌘	**F**	**Release:** ⌘ R99

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 <u>TR 21.900</u>.

Use <u>one</u> 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)
Rel-6 (Release 6)

Reason for change:	⌘	Align the MAC specification with the agreed changes to the RRC specification, introduced at the last meeting. Take into account the decisions made in Turin on the averaging interval.
Summary of change: ⌘		- Eliminated the sections describing the triggering of reports. The current description is far from describing all the scenarios (no mention of timers). Instead of reproducing all the detail provided in 25.331, these sections were removed. - – Clarified that the Average and Variance should be computed over the interval ending at the time the report is triggered. <u>- Modified a "will" into a "should", to specify the extent to which this is mandated to the mobiles.</u> <u>- Removed the primitives related to the traffic volume measurement triggering functionality which was removed from the MAC specification.</u> Impact Analysis: This change clarifies the Traffic Volume Measurement procedure. It is a clarification that captures the common understanding in the industry. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise Impact on Test Specifications: This CR has no impact on the test specifications.
Consequences if not approved:	⌘	Ambiguity in the MAC specification. Incompatibility with the RRC description.

Clauses affected:	⌘	8.3.2, 11.1					

		Y	N			
Other specs	⌘		X	Other core specifications	⌘	
affected:			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:

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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.

8.3   Primitives between MAC and RRC

8.3.1   Primitives

The primitives between MAC and RRC are shown in table 8.3.1.1.

Table 8.3.1.1: Primitives between MAC sub-layer and RRC

Generic Name	Parameter			
	Request	Indication	Response	Confirm
CMAC-CONFIG	UE information elements, RB information elements, TrCH information elements, RACH transmission control elements, Ciphering elements, CPCH transmission control elements			
CMAC-MEASUREMENT	Measurement information elements	Measurement result		
CMAC-STATUS		Status info		

CMAC-CONFIG-Req:

-    CMAC-CONFIG-Req is used to request for setup, release and configuration of a logical channel, e.g. RNTI allocation, switching the connection between logical channels and transport channels, TFCS update or scheduling priority of logical channel.

CMAC-MEASUREMENT-Req/Ind:

-    CMAC-MEASUREMENT-Req is used by RRC to request MAC to perform measurements, e.g. traffic volume measurements;

-    CMAC-MEASUREMENT-Ind is used to notify RRC of the measurement result.

CMAC-STATUS-Ind:

-    CMAC-STATUS-Ind primitive notifies RRC of status information.

8.3.2   Parameters

See [7] for a detailed description of the UE, RB and TrCH information elements.

   a)   UE information elements
        S-RNTI
        SRNC identity
        C-RNTI
        Activation time

   b)   RB information elements
        RB multiplexing info (Transport channel identity, Logical channel identity, MAC logical channel priority)

   c)   TrCH information elements
        Transport Format Combination Set

d) Measurement information elements
   ~~Mode (Periodical, Event Trigger)~~
   Reporting Quantity identifiers
   Time interval to take an average or a variance (applicable when Average or Variance is Reporting Quantity)
   ~~Reporting Interval (applicable when mode is Periodical)~~
   ~~Upper and Lower Thresholds, TH_U and TH_L (applicable when mode is Event Trigger)~~

e) Measurement result
   ~~Mode~~
   Reporting Quantity
   ~~Event ID, 4a or 4b (applicable when mode is Event Trigger)~~

f) Status info
   when set to value ""transmission unsuccessful"" this parameter indicates to RRC that transmission of a TM RLC PDU failed (due to e.g. Maximum number of preamble ramping cycles reached for RACH in FDD), when set to value "transmission successful" this parameter indicates to RRC that the requested TM RLC PDU(s) has been submitted for transmission by the physical layer.

g) RACH transmission control elements
   Set of ASC parameters (identifier for PRACH partitions, persistence values)
   Maximum number of preamble ramping cycles M_{max}
   Minimum and maximum number of time units between two preamble ramping cycles, N_{BO1min} and N_{BO1max}
   ASC for RRC CONNECTION REQUEST message

h) Ciphering elements
   Ciphering mode
   Ciphering key
   Ciphering sequence number

i) CPCH transmission control elements
   CPCH persistency value, P for each Transport Format
   Maximum number of preamble ramping cycles N_{access_fails}
   NF_max (Maximum number of frames for CPCH transmission for each Transport Format)
   N_EOT (Number of EOT for release of CPCH transmission)
   Backoff control timer parameters
   Transport Format Set
   Initial Priority Delays
   Channel Assignment Active indication

11 Specific functions

11.1 Traffic volume measurement for dynamic radio bearer control

Dynamic radio bearer control is performed ~~in~~ by RRC, based on the traffic volume measurement~~s~~ reported by MAC. Traffic volume information is ~~gathered and~~ measured in MAC layer and the result~~s~~ ~~is~~ are reported from MAC layer to RRC layer.

At least every TTI, the MAC layer shall receive from each RLC entity the value of its Buffer Occupancy (BO), expressed in bytes. RRC can configure MAC to keep track of statistics (i.e. raw BO, average of BO and variance of BO) on the BO (see [7]) values of all Radio Bearers mapped onto a given transport channel. When the average or variance are requested, an averaging interval duration will also be provided.

Every time the BO values are reported to MAC, the UE shall verify whether an event was triggered or if a periodic report is required (see [7]). If reporting is required (multiple reports may be triggered in a single TTI), the MAC shall deliver to RRC the reporting quantities required for the corresponding RBs. In the case of average and variance of BO, the averaging should~~will~~ be performed for the interval with the configured duration ending at the time when the event was triggered.

~~Traffic volume measurement procedure in MAC is shown in figure 11.1.1. MAC receives RLC PDUs together with BOs (Buffer Occupancies) from RLC entities, and may multiplex these RLC PDUs. If the reporting mode is Event Trigger, MAC compares for each TTI Transport Channel Traffic Volume (equivalent to total sum of BOs for logical channels mapped onto a transport channel) with the thresholds set by RRC. If the value is out of range, MAC reports measurement result (i.e. BO, Average of BO, and Variance of BO) of each RB to RRC. If the reporting mode is Periodical, MAC reports measurement result of each RB to RRC at the end of each Reporting Interval. The Reporting Interval is set by RRC. Thereby, RRC can be informed the traffic volume status of each logical and transport channel, and therefore can take proper action for new radio bearer configuration accordingly. The two reporting modes, Event Trigger and Periodical, are not mutually exclusive, i.e. MAC may be requested to report simultaneously on both modes.~~

RRC requests MAC measurement report with the primitive CMAC-Measure-REQ including following parameters.

Measurement information elements.

- ~~Mode~~
  ~~Indicates whether the report should be Periodical, or Event Trigger~~

- Reporting Quantity identifiers
  Indicates what should be reported to RRC layer
  For each RB, BO (optional), Average of BO (optional), or Variance of BO(optional)

- Time interval to take an average or a variance (applicable when Average or Variance is Reporting Quantity)
  Indicates time interval to take an average or a variance of BO
  The calculation of average and variance of BO shall be based on one sample of BO per 10ms during the time interval given in this information element. All samples taken in the time interval shall have equal weight in the calculation.

- ~~Reporting Interval (applicable when mode is Periodical)~~
  ~~Indicates the time interval of periodical report~~

- ~~Upper and Lower Thresholds, TH_U and TH_L (applicable when mode is Event Trigger)~~

  - ~~TH_U: Upper threshold value for each transport channel, used when Event ID = 4a~~

  - ~~TH_L: Lower threshold value for each transport channel, used when Event ID = 4b~~

MAC receives RLC PDUs with the primitive MAC-Data-REQ including following parameters.

- ~~Data (RLC PDU)~~

- Buffer Occupancy (BO)
  The parameter Buffer Occupancy (BO) indicates for each logical channel the amount of data in number of bytes that is available for transmission and retransmission in RLC layer. When MAC is connected to an AM RLC entity, control PDUs to be transmitted and RLC PDUs outside the RLC Tx window shall also be included in the BO. RLC PDUs that have been transmitted but not negatively acknowledged by the peer entity shall not be included in the BO.

~~MAC receives measurement information elements with the primitive CMAC-Measure-REQ that includes parameters such as Mode, Reporting Quantity identifiers, Time interval to take an average or a variance, Reporting Interval, and TH_U and TH_L for each transport channel. Whenever MAC receives RLC PDUs from different RLC entities, it is notified by RLC amount of data queued in RLC transmission and retransmission buffer. If the mode is Event Trigger, MAC compares Transport Channel Traffic Volume with threshold values passed by RRC, TH_U and TH_L. In case that the measured value is out of range, MAC reports measurement result of each RB to RRC. On the other hand, if the mode is Periodical, MAC reports measurement result to RRC periodically. Measurement result can contain average and variance as well as amount of data for each RB as follows.~~

~~Measurement result.~~

- ~~Mode~~
  ~~Periodical, or Event Trigger~~

- ~~Reporting Quantity~~
  ~~For each RB, BO (optional), Average of BO (optional), and Variance of BO (optional)~~

~~Event ID (applicable when mode is Event Trigger)~~
~~Indicates overflow or underflow for each transport channel~~

~~Event 4a: Transport Channel Traffic Volume exceeds an absolute threshold~~

~~Event 4b: Transport Channel Traffic Volume becomes smaller than an absolute threshold~~

~~When RRC receives the measurement result of each RB, RRC shall convert the values BO, Average of BO, and Variance of BO to the quantisised values RLC Buffer Payload, Average of RLC Buffer Payload, and Variance of RLC Buffer Payload, respectively.~~

~~**Figure 11.1.1: Traffic volume measurement/report procedure in MAC (UE side, informative)**~~

CR-Form-v7

CHANGE REQUEST

| ⌘ | **25.321** CR **129** | ⌘**rev** | **-** | ⌘ | Current version: | **4.5.0** | ⌘ |

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Title: ⌘	MAC TVM Corrections	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 13/08/2002

Category: ⌘ **A**	***Release:*** ⌘ Rel-4

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Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

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Consequences if not approved: ⌘	Ambiguity in the MAC specification. Incompatibility with the RRC description.

Clauses affected: ⌘	8.3.2, 11.1

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘	

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       Activation time

    b) RB information elements
       RB multiplexing info (Transport channel identity, Logical channel identity, MAC logical channel priority)

    c) TrCH information elements
       Transport Format Combination Set

d) Measurement information elements
   ~~Mode (Periodical, Event Trigger)~~
   Reporting Quantity identifiers
   Time interval to take an average or a variance (applicable when Average or Variance is Reporting Quantity)
   ~~Reporting Interval (applicable when mode is Periodical)~~
   ~~Upper and Lower Thresholds, TH$_U$ and TH$_L$ (applicable when mode is Event Trigger)~~

e) Measurement result
   ~~Mode~~
   Reporting Quantity
   ~~Event ID, 4a or 4b (applicable when mode is Event Trigger)~~

f) Status info
   when set to value ""transmission unsuccessful"" this parameter indicates to RRC that transmission of a TM RLC PDU failed (due to e.g. Maximum number of preamble ramping cycles reached for RACH in FDD), when set to value "transmission successful" this parameter indicates to RRC that the requested TM RLC PDU(s) has been submitted for transmission by the physical layer.

g) RACH transmission control elements
   Set of ASC parameters (identifier for PRACH partitions, persistence values)
   Maximum number of preamble ramping cycles M_{max}
   Minimum and maximum number of time units between two preamble ramping cycles, N_{BO1min} and N_{BO1max}
   ASC for RRC CONNECTION REQUEST message

h) Ciphering elements
   Ciphering mode
   Ciphering key
   Ciphering sequence number

i) CPCH transmission control elements
   CPCH persistency value, P for each Transport Format
   Maximum number of preamble ramping cycles $N_{\_access\_fails}$
   NF_max (Maximum number of frames for CPCH transmission for each Transport Format)
   N_EOT (Number of EOT for release of CPCH transmission)
   Backoff control timer parameters
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- Reporting Quantity identifiers
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- Time interval to take an average or a variance (applicable when Average or Variance is Reporting Quantity)
  Indicates time interval to take an average or a variance of BO
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- ~~Reporting Interval (applicable when mode is Periodical)~~
  ~~Indicates the time interval of periodical report~~

- ~~Upper and Lower Thresholds, TH_U and TH_L (applicable when mode is Event Trigger)~~

  - ~~TH_U: Upper threshold value for each transport channel, used when Event ID = 4a~~

  - ~~TH_L: Lower threshold value for each transport channel, used when Event ID = 4b~~

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~~Measurement result.~~

- ~~Mode~~
  ~~Periodical, or Event Trigger~~

- ~~Reporting Quantity~~
  ~~For each RB, BO (optional), Average of BO (optional), and Variance of BO (optional)~~

~~Event ID (applicable when mode is Event Trigger)~~
~~Indicates overflow or underflow for each transport channel~~

~~Event 4a: Transport Channel Traffic Volume exceeds an absolute threshold~~

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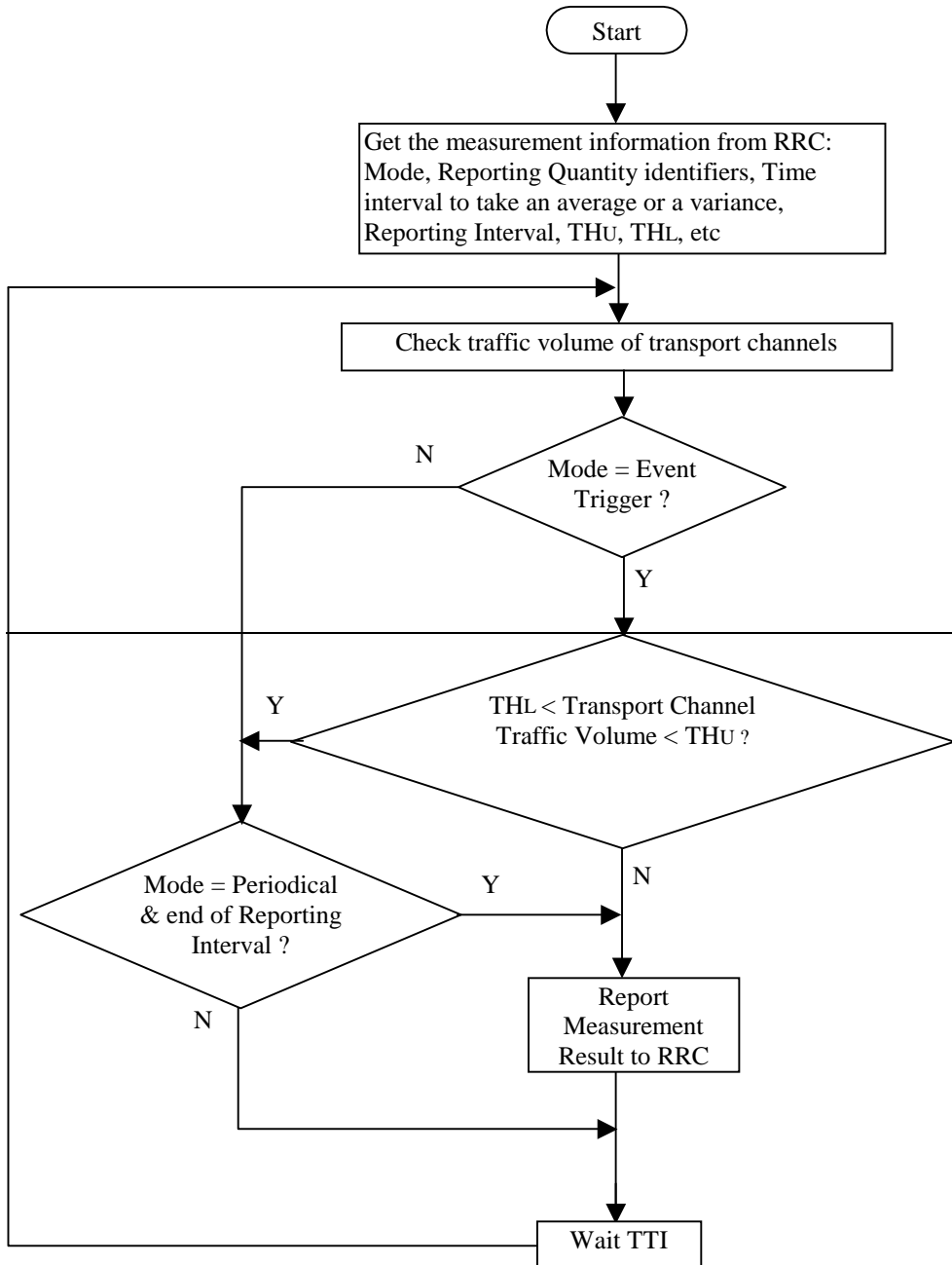

~~**Figure 11.1.1: Traffic volume measurement/report procedure in MAC (UE side, informative)**~~

3GPP TSG-RAN WG2 Meeting #31
Arlanda, Sweden, 19-23 August 2002

Tdoc ⌘ *R2-022350*

CR-Form-v7

CHANGE REQUEST

| ⌘ | **25.321** CR **130** | ⌘ **rev** | **-** | ⌘ | Current version: | **5.1.0** | ⌘ |

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

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Title: ⌘	MAC TVM Corrections
Source: ⌘	TSG-RAN WG2
Work item code: ⌘ TEI	***Date:*** ⌘ 13/08/2002

Category: ⌘ **A**		***Release:*** ⌘ Rel-5	
Use one of the following categories:		*Use one of the following releases:*	
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Clauses affected: ⌘	8.3.2, 11.1

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
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		X	O&M Specifications	

Other comments: ⌘	

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## 8.3.2		Parameters

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   Activation time

b) RB information elements
   RB multiplexing info (Transport channel identity, Logical channel identity, MAC logical channel priority)

c) TrCH information elements
   Transport Format Combination Set

d) Measurement information elements
~~Mode (Periodical, Event Trigger)~~
Reporting Quantity identifiers
Time interval to take an average or a variance (applicable when Average or Variance is Reporting Quantity)
~~Reporting Interval (applicable when mode is Periodical)~~
~~Upper and Lower Thresholds, TH_U and TH_L (applicable when mode is Event Trigger)~~

e) Measurement result
~~Mode~~
Reporting Quantity
~~Event ID, 4a or 4b (applicable when mode is Event Trigger)~~

f) Status info
when set to value ""transmission unsuccessful"" this parameter indicates to RRC that transmission of a TM RLC PDU failed (due to e.g. Maximum number of preamble ramping cycles reached for RACH in FDD), when set to value "transmission successful" this parameter indicates to RRC that the requested TM RLC PDU(s) has been submitted for transmission by the physical layer.

g) RACH transmission control elements
Set of ASC parameters (identifier for PRACH partitions, persistence values)
Maximum number of preamble ramping cycles M_{max}
Minimum and maximum number of time units between two preamble ramping cycles, N_{BO1min} and N_{BO1max}
ASC for RRC CONNECTION REQUEST message

h) Ciphering elements
Ciphering mode
Ciphering key
Ciphering sequence number

i) CPCH transmission control elements
CPCH persistency value, P for each Transport Format
Maximum number of preamble ramping cycles $N_{\_access\_fails}$
NF_max (Maximum number of frames for CPCH transmission for each Transport Format)
N_EOT (Number of EOT for release of CPCH transmission)
Backoff control timer parameters
Transport Format Set
Initial Priority Delays
Channel Assignment Active indication

11 Specific functions

11.1 Traffic volume measurement for dynamic radio bearer control

Dynamic radio bearer control is performed ~~in~~ by RRC, based on the traffic volume measurement~~s~~ reported by MAC. Traffic volume information is ~~gathered and~~ measured in MAC layer and the result~~s~~ ~~is~~ are reported from MAC layer to RRC layer.

At least every TTI, the MAC layer shall receive from each RLC entity the value of its Buffer Occupancy (BO), expressed in bytes. RRC can configure MAC to keep track of statistics (i.e. raw BO, average of BO and variance of BO) on the BO (see [7]) values of all Radio Bearers mapped onto a given transport channel. When the average or variance are requested, an averaging interval duration will also be provided.

Every time the BO values are reported to MAC, the UE shall verify whether an event was triggered or if a periodic report is required (see [7]). If reporting is required (multiple reports may be triggered in a single TTI), the MAC shall deliver to RRC the reporting quantities required for the corresponding RBs. In the case of average and variance of BO, the averaging should~~l~~~~will~~ be performed for the interval with the configured duration ending at the time when the event was triggered.

~~Traffic volume measurement procedure in MAC is shown in figure 11.1.1. MAC receives RLC PDUs together with BOs (Buffer Occupancies) from RLC entities, and may multiplex these RLC PDUs. If the reporting mode is Event Trigger, MAC compares for each TTI Transport Channel Traffic Volume (equivalent to total sum of BOs for logical channels mapped onto a transport channel) with the thresholds set by RRC. If the value is out of range, MAC reports measurement result (i.e. BO, Average of BO, and Variance of BO) of each RB to RRC. If the reporting mode is Periodical, MAC reports measurement result of each RB to RRC at the end of each Reporting Interval. The Reporting Interval is set by RRC. Thereby, RRC can be informed the traffic volume status of each logical and transport channel, and therefore can take proper action for new radio bearer configuration accordingly. The two reporting modes, Event Trigger and Periodical, are not mutually exclusive, i.e. MAC may be requested to report simultaneously on both modes.~~

RRC requests MAC measurement report with the primitive CMAC-Measure-REQ including following parameters.

Measurement information elements.

- ~~Mode
  Indicates whether the report should be Periodical, or Event Trigger~~

- Reporting Quantity identifiers
  Indicates what should be reported to RRC layer
  For each RB, BO (optional), Average of BO (optional), or Variance of BO(optional)

- Time interval to take an average or a variance (applicable when Average or Variance is Reporting Quantity)
  Indicates time interval to take an average or a variance of BO
  The calculation of average and variance of BO shall be based on one sample of BO per 10ms during the time interval given in this information element. All samples taken in the time interval shall have equal weight in the calculation.

- ~~Reporting Interval (applicable when mode is Periodical)
  Indicates the time interval of periodical report~~

- ~~Upper and Lower Thresholds, THU and THL (applicable when mode is Event Trigger)~~

  - ~~THU: Upper threshold value for each transport channel, used when Event ID = 4a~~

  - ~~THL: Lower threshold value for each transport channel, used when Event ID = 4b~~

MAC receives RLC PDUs with the primitive MAC-Data-REQ including following parameters.

- ~~Data (RLC PDU)~~

- Buffer Occupancy (BO)
  The parameter Buffer Occupancy (BO) indicates for each logical channel the amount of data in number of bytes that is available for transmission and retransmission in RLC layer. When MAC is connected to an AM RLC entity, control PDUs to be transmitted and RLC PDUs outside the RLC Tx window shall also be included in the BO. RLC PDUs that have been transmitted but not negatively acknowledged by the peer entity shall not be included in the BO.

~~MAC receives measurement information elements with the primitive CMAC-Measure-REQ that includes parameters such as Mode, Reporting Quantity identifiers, Time interval to take an average or a variance, Reporting Interval, and THU and THL for each transport channel. Whenever MAC receives RLC PDUs from different RLC entities, it is notified by RLC amount of data queued in RLC transmission and retransmission buffer. If the mode is Event Trigger, MAC compares Transport Channel Traffic Volume with threshold values passed by RRC, THU and THL. In case that the measured value is out of range, MAC reports measurement result of each RB to RRC. On the other hand, if the mode is Periodical, MAC reports measurement result to RRC periodically. Measurement result can contain average and variance as well as amount of data for each RB as follows.~~

~~Measurement result.~~

- ~~Mode
  Periodical, or Event Trigger~~

- ~~Reporting Quantity
  For each RB, BO (optional), Average of BO (optional), and Variance of BO (optional)~~

~~Event ID (applicable when mode is Event Trigger)~~
~~Indicates overflow or underflow for each transport channel~~

~~Event 4a: Transport Channel Traffic Volume exceeds an absolute threshold~~

~~Event 4b: Transport Channel Traffic Volume becomes smaller than an absolute threshold~~

~~When RRC receives the measurement result of each RB, RRC shall convert the values BO, Average of BO, and Variance of BO to the quantisised values RLC Buffer Payload, Average of RLC Buffer Payload, and Variance of RLC Buffer Payload, respectively.~~
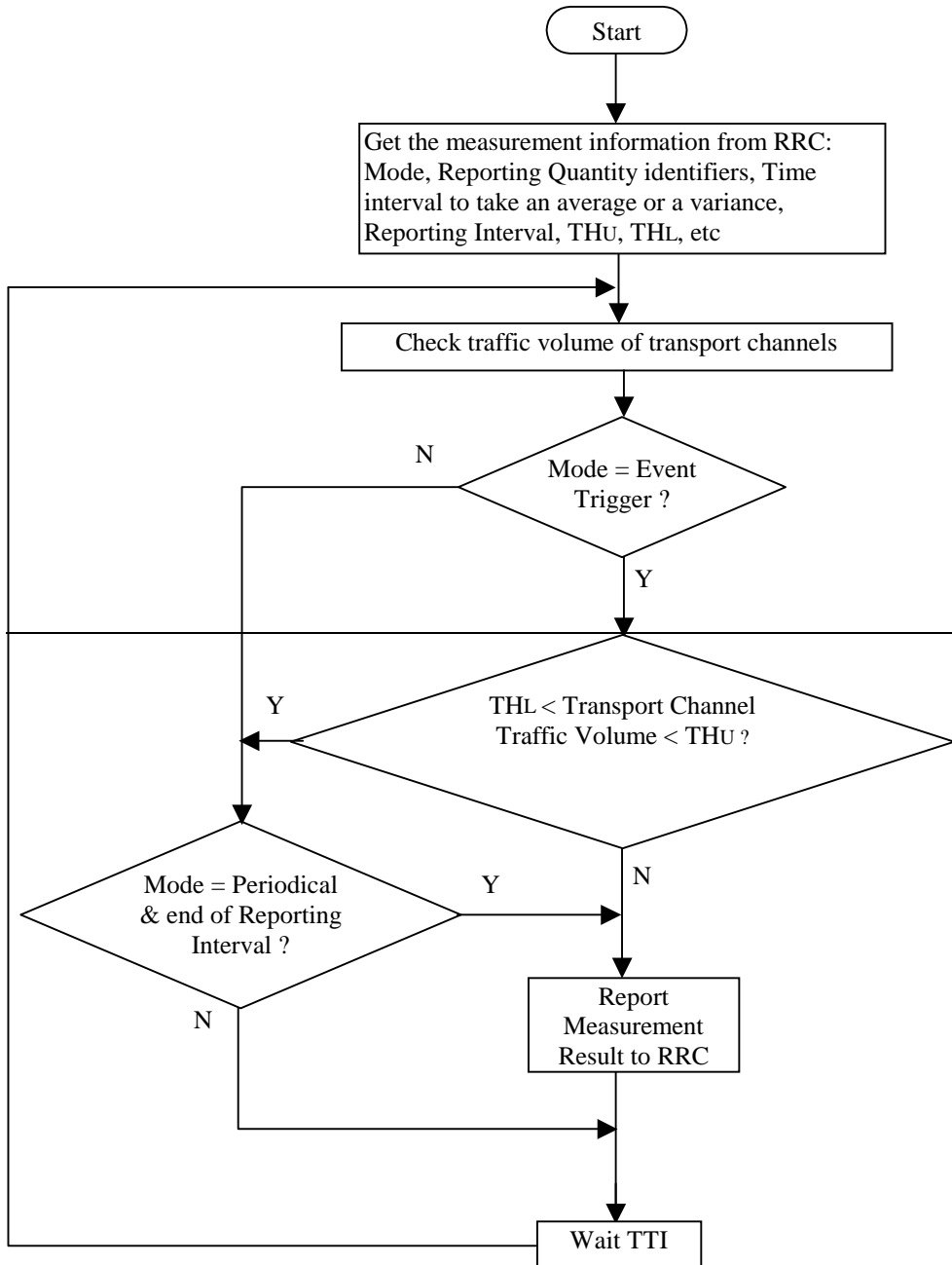
```
                        ┌─────────┐
                        │  Start  │
                        └─────────┘
                             │
                             ▼
        ┌────────────────────────────────────────┐
        │ Get the measurement information from    │
        │ RRC: Mode, Reporting Quantity           │
        │ identifiers, Time interval to take an   │
        │ average or a variance, Reporting        │
        │ Interval, THU, THL, etc                 │
        └────────────────────────────────────────┘
                             │
                             ▼
        ┌────────────────────────────────────────┐
   ┌───▶│ Check traffic volume of transport       │
   │    │ channels                                │
   │    └────────────────────────────────────────┘
   │                        │
   │                        ▼
   │            N    ◇ Mode = Event Trigger ? ◇
   │         ◀──────                            
   │    │                   │ Y
   │    │                   ▼
   │    │        ◇ THL < Transport Channel   ◇
   │    │   Y    ◇ Traffic Volume < THU ?    ◇
   │    │  ◀─────                             
   │    │ │                  │ N
   │    │ ▼                  │
   │    ◇ Mode = Periodical  │
   │    ◇ & end of Reporting │
   │    ◇ Interval ?   Y     ▼
   │       ────────────▶ ┌──────────────┐
   │    │ N              │ Report       │
   │    │                │ Measurement  │
   │    │                │ Result to RRC│
   │    │                └──────────────┘
   │    └──────────────────▶│
   │                        ▼
   │                   ┌──────────┐
   └───────────────────│ Wait TTI │
                       └──────────┘
```

~~**Figure 11.1.1: Traffic volume measurement/report procedure in MAC (UE side, informative)**~~

CR-Form-v7

CHANGE REQUEST

| ⌘ | **25.321** CR **131** | ⌘**rev** | **-** | ⌘ | Current version: | **3.c.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: ⌘	MAC header for DTCH and DCCH	
Source: ⌘	TSG-RAN WG2.	
Work item code: ⌘	TEI	***Date:*** ⌘ 21/08/2002
Category: ⌘	**F**	***Release:*** ⌘ R99

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:
2 *(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)*

Reason for change: ⌘	It is unclear whether the C/T field is mandatory or not when the DTCH or DCCH is mapped to RACH/FACH. C/T field should always be present even if no multiplexing on MAC is applied.
Summary of change: ⌘	1. Case C and D in Figure 9.2.1.1.1 are split. **Impact analysis:** No functional change is made. Thus the impact is isolated. Unclear specification is clarified.
Consequences if not approved: ⌘	A possibility still remains that the C/T field is absent when only one dedicated logical channel is mapped to a transport channel.

Clauses affected: ⌘	9.2.1.1

Other specs affected: ⌘		Y	N	
			X	Other core specifications ⌘
			X	Test specifications
			X	O&M Specifications

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/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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.

9.2.1.1   MAC header for DTCH and DCCH

a) DTCH or DCCH mapped to DCH, no multiplexing of dedicated channels on MAC:

-   no MAC header is required.

b) DTCH or DCCH mapped to DCH, with multiplexing of dedicated channels on MAC:

-   C/T field is included in MAC header.

c) DTCH or DCCH mapped to RACH/FACH:

-   TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header. For FACH, the UE-Id type field used is the C-RNTI or U-RNTI. For RACH, the UE-Id type field used is the C-RNTI.

d) DTCH or DCCH mapped to DSCH or USCH:

-   the TCTF field is included in the MAC header for TDD only. The UE-Id type and UE-Id are included in the MAC header for FDD only. The UE-Id type field used is the DSCH-RNTI. The C/T field is included if multiplexing on MAC is applied.

e) DTCH or DCCH mapped to DSCH or USCH where DTCH or DCCH are the only logical channels:

-   the UE-Id type and UE-Id are included in the MAC header for FDD only. The UE-Id type field used is the DSCH-RNTI. The C/T field is included in the MAC header if multiplexing on MAC is applied.

f) DTCH or DCCH mapped to CPCH:

-   UE-Id type field and UE-Id are included in the MAC header. The C/T field is included in the MAC header if multiplexing on MAC is applied. The UE-Id type field used is the C-RNTI.
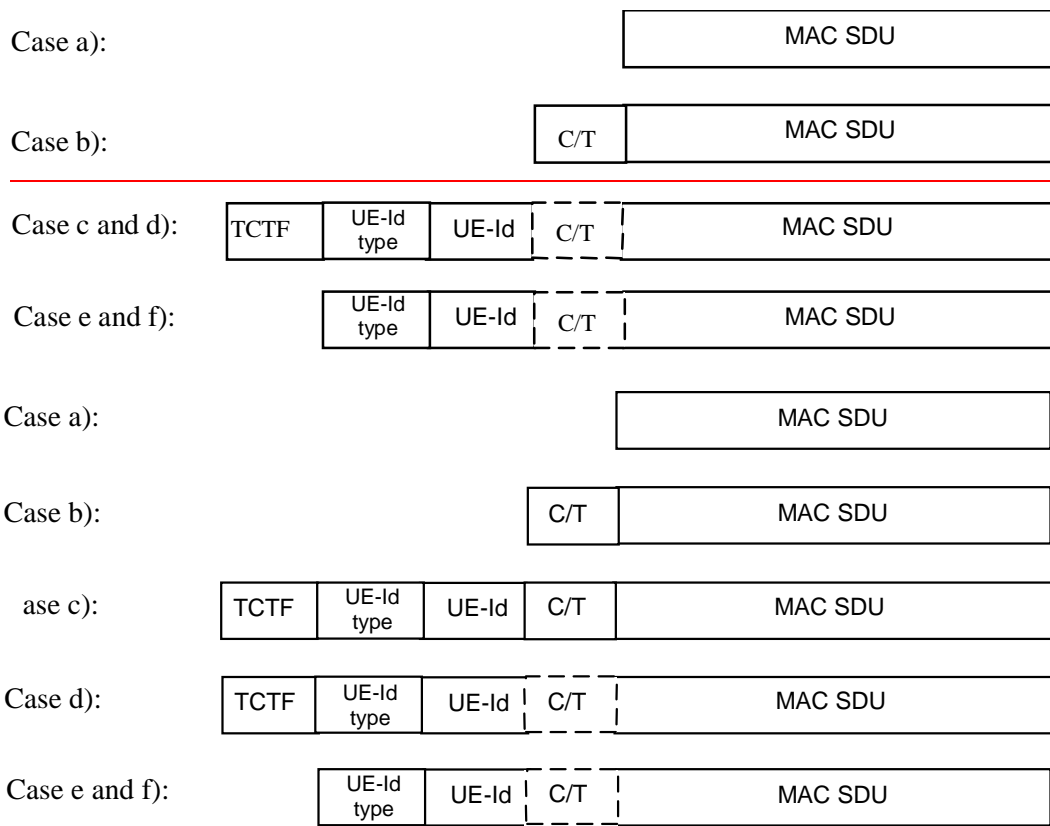

Figure 9.2.1.1.1: MAC Data PDU formats for DTCH and DCCH

CR-Form-v7

CHANGE REQUEST

⌘ **25.321** CR **132** ⌘**rev** **-** ⌘ Current version: **4.5.0** ⌘

*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: ⌘	MAC header for DTCH and DCCH	
Source: ⌘	TSG-RAN WG2.	
Work item code: ⌘	TEI	***Date:*** ⌘ 21/08/2002

Category: ⌘ **A**		***Release:*** ⌘ Rel-4

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:
2 (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)

Reason for change: ⌘	It is unclear whether the C/T field is mandatory or not when the DTCH or DCCH is mapped to RACH/FACH. C/T field should always be present even if no multiplexing on MAC is applied.
Summary of change: ⌘	1. Case C and D in Figure 9.2.1.1.1 are split. **Impact analysis:** No functional change is made. Thus the impact is isolated. Unclear specification is clarified.
Consequences if not approved: ⌘	A possibility still remains that the C/T field is absent when only one dedicated logical channel is mapped to a transport channel.

Clauses affected: ⌘	9.2.1.1

	Y	N	
Other specs affected: ⌘		X	Other core specifications ⌘
		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.

9.2.1.1   MAC header for DTCH and DCCH

a) DTCH or DCCH mapped to DCH, no multiplexing of dedicated channels on MAC:

-   no MAC header is required.

b) DTCH or DCCH mapped to DCH, with multiplexing of dedicated channels on MAC:

-   C/T field is included in MAC header.

c) DTCH or DCCH mapped to RACH/FACH:

-   TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header. For FACH, the UE-Id type field used is the C-RNTI or U-RNTI. For RACH, the UE-Id type field used is the C-RNTI.

d) DTCH or DCCH mapped to DSCH or USCH:

-   the TCTF field is included in the MAC header for TDD only. The UE-Id type and UE-Id are included in the MAC header for FDD only. The UE-Id type field used is the DSCH-RNTI. The C/T field is included if multiplexing on MAC is applied.

e) DTCH or DCCH mapped to DSCH or USCH where DTCH or DCCH are the only logical channels:

-   the UE-Id type and UE-Id are included in the MAC header for FDD only. The UE-Id type field used is the DSCH-RNTI. The C/T field is included in the MAC header if multiplexing on MAC is applied.

f) DTCH or DCCH mapped to CPCH:

-   UE-Id type field and UE-Id are included in the MAC header. The C/T field is included in the MAC header if multiplexing on MAC is applied. The UE-Id type field used is the C-RNTI.
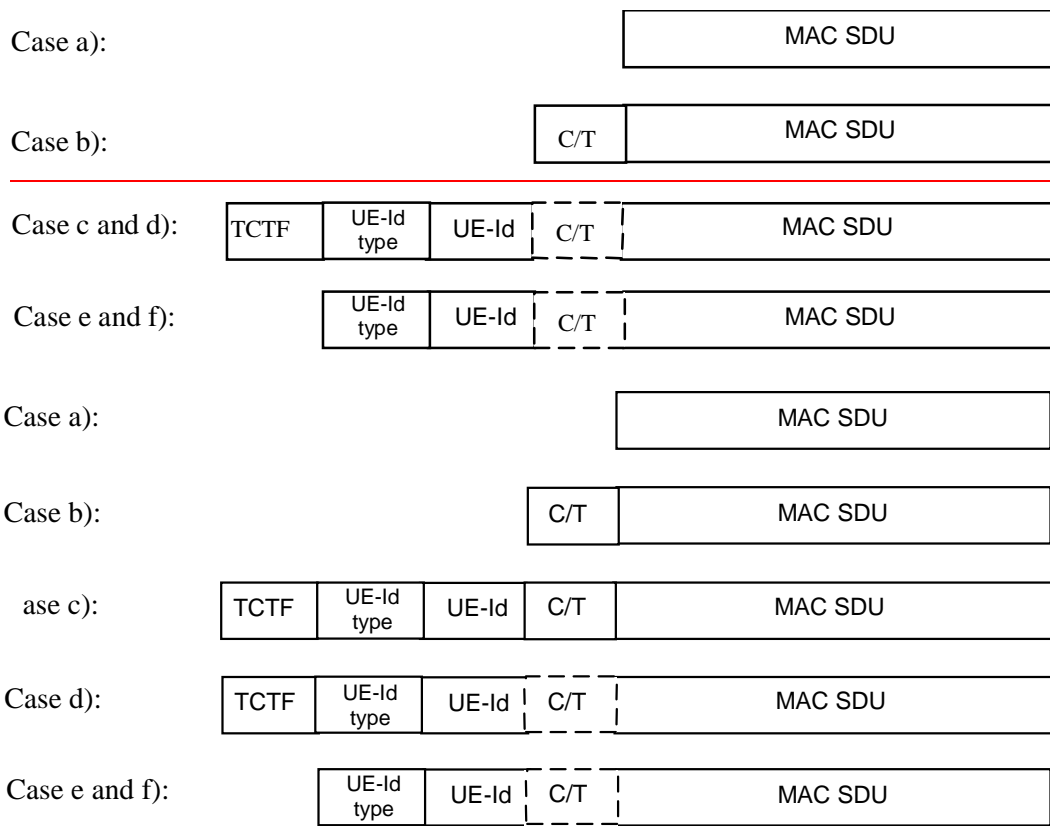

Figure 9.2.1.1.1: MAC Data PDU formats for DTCH and DCCH

CR-Form-v7

CHANGE REQUEST

⌘ **25.321** CR **133** ⌘**rev** **-** ⌘ Current version: **5.1.0** ⌘

*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: ⌘	MAC header for DTCH and DCCH	
Source: ⌘	TSG-RAN WG2.	
Work item code: ⌘	TEI	***Date:*** ⌘ 21/08/2002
Category: ⌘ **A**		***Release:*** ⌘ Rel-5

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:
2 (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)

Reason for change: ⌘	It is unclear whether the C/T field is mandatory or not when the DTCH or DCCH is mapped to RACH/FACH. C/T field should always be present even if no multiplexing on MAC is applied.
Summary of change: ⌘	1. Case C and D in Figure 9.2.1.1.1 are split. **Impact analysis:** No functional change is made. Thus the impact is isolated. Unclear specification is clarified.
Consequences if not approved: ⌘	A possibility still remains that the C/T field is absent when only one dedicated logical channel is mapped to a transport channel.

Clauses affected: ⌘	9.2.1.1

	Y	N		
Other specs ⌘		X	Other core specifications ⌘	
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.

9.2.1.1   MAC header for DTCH and DCCH (not mapped on HS-DSCH)

a) DTCH or DCCH mapped to DCH, no multiplexing of dedicated channels on MAC:

- no MAC header is required.

b) DTCH or DCCH mapped to DCH, with multiplexing of dedicated channels on MAC:

- C/T field is included in MAC header.

c) DTCH or DCCH mapped to RACH/FACH:

- TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header. For FACH, the UE-Id type field used is the C-RNTI or U-RNTI. For RACH, the UE-Id type field used is the C-RNTI.

d) DTCH or DCCH mapped to DSCH or USCH:

- the TCTF field is included in the MAC header for TDD only. The UE-Id type and UE-Id are included in the MAC header for FDD only. The UE-Id type field used is the DSCH-RNTI. The C/T field is included if multiplexing on MAC is applied.

e) DTCH or DCCH mapped to DSCH or USCH where DTCH or DCCH are the only logical channels:

- the UE-Id type and UE-Id are included in the MAC header for FDD only. The UE-Id type field used is the DSCH-RNTI. The C/T field is included in the MAC header if multiplexing on MAC is applied.

f) DTCH or DCCH mapped to CPCH:

- UE-Id type field and UE-Id are included in the MAC header. The C/T field is included in the MAC header if multiplexing on MAC is applied. The UE-Id type field used is the C-RNTI.
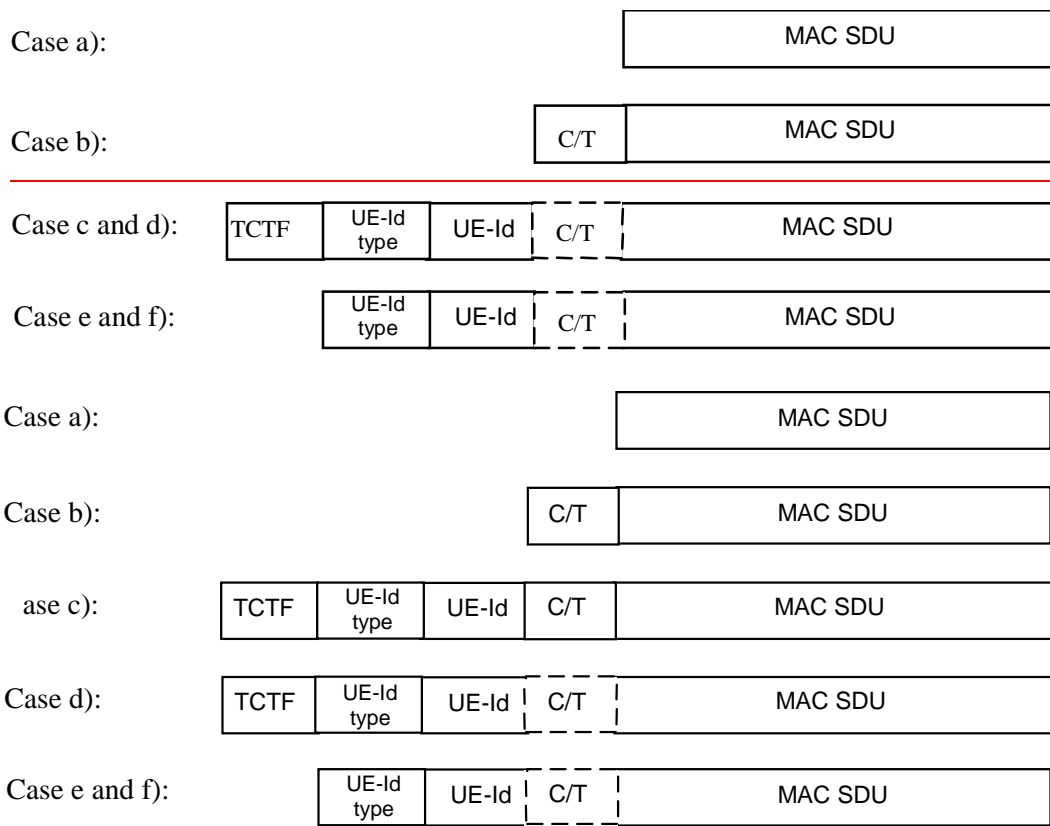

Figure 9.2.1.1.1: MAC Data PDU formats for DTCH and DCCH