3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.321	CR	**002**	Current Version:	3.0.0

3G specification number ↑   *↑ CR number as allocated by 3G support team*

For submision to TSG   **RAN #5**   for approval **X**   *(only one box should*
list TSG meeting no. here ↑   for information   *be marked with an X)*

Form: 3G CR cover sheet, version 1.0   *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: USIM ☐   ME **X**   UTRAN **X**   Core Network ☐
(at least one should be marked with an X)

Source: TSG-RAN WG2   **Date:** 1999-08-17

Subject: Modification of MAC primitives

3G Work item:

Category: F   Correction ☐
            A   Corresponds to a correction in a 2G specification ☐
(only one category   B   Addition of feature ☐
Shall be marked   C   Functional modification of feature **X**
With an X)   D   Editorial modification ☐

Reason for change: Parameters taken from TS 25.331 have been added to CMAC-CONFIG-Req. In addition, parameters for ciphering and the RACH backoff algorithm have been added. Primitive names are changed according to primitive naming convention in 25.301. CMAC-ERROR, MAC-ERROR and CMAC-CONNECT primitives are removed, because no motivation for their existence has been found.
Editorial notes are removed because lack of relevance.
The parameters for CMAC-MEASUREMENT primitives are regarded as FFS, until the traffic volume measurement algorithm is decided upon.
"Number of transmitted RLC PDUs" is added as a new parameter to the MAC-DATA-Ind primitive. It is needed by the RLC EPC function.
Message Unit (MU) is changed to Data in the MAC-DATA primitives.

Clauses affected: 8

Other specs Affected:
Other 3G core specifications	☐	→ List of CRs:
Other 2G core specifications	☐	→ List of CRs:
MS test specifications	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:

help.doc

<---------- double-click here for help and instructions on how to create a CR.

8. Elements for layer-to-layer communication

8.1 Primitives between layers 1 and 2

see TS25.302

8.2 Primitives between MAC and RLC

8.2.1 Primitives

The primitives between MAC layer and RLC layer are shown in Table 8.2.1.~~1~~

Generic Name	Type				Parameters
	Request	**Indication**	**Response**	**Confirm**	
MAC-DATA	X	X			~~MU~~ Data, Number of transmitted RLC PDUs
~~MAC ERROR~~		~~X~~			~~[FFS]~~
MAC-STATUS		X	X		[FFS]

Table 8.2.1 Primitives between MAC layer and RLC layer

MAC-DATA-–Req~~uest~~/Ind~~ication~~

- MAC-DATA-–Req~~uest~~ primitive is used to request that an upper layer PDU be sent using the procedures for the information transfer service.
- MAC-DATA-–Ind~~ication~~ primitive indicates the arrival of ~~an~~ upper layer PDUs received within one transmission time interval by means of the information transfer service.

~~MAC ERROR Indication~~

~~MAC ERROR Indication primitive indicates to RLC that an error condition has occurred.~~

MAC-STATUS-–Ind~~ication~~/Resp~~onse~~

- MAC-STATUS-–Ind~~ication~~ primitive indicates to RLC about changes in the rules under which it may transfer data to MAC. Parameters of the primitive can indicate a transmission timer value, whether the RLC can transfer data and whether that data is restricted to supervisory frames only.
- MAC-STATUS-–Resp~~onse~~ enables RLC to acknowledge a MAC-STATUS-–Ind~~ication~~. It is possible that RLC would use this primitive to indicate that it has nothing to send or that it is in a suspended state.

8.2.2 Parameters

a) ~~Message Unit (MU)~~Data
   It contains the RLC layer message (RLC-PDU) to be transmitted-.,or the RLC layer messages that have been received by the MAC sub-layer.
b) Number of transmitted RLC PDUs (indication only)
   Indicates the number of RLC PDUs transmitted within the transmission time interval, based on the TFI value.

[Note (from Tdoc WG2 009/99): This description are based on L2-LAC specification drafted TTC/ARIB Joint meeting. Because SAP between LAC and MAC is defined in our structure of MAC, the name of Signal is changed

to Primitive. And format of explanation of primitives are changed to avoid verbose description. Request and Indication are combined to explain. Primitives for Activation/Deactivation or Establish/Release or Connect/Disconnect for MAC connection are FFS.]

[Note (from Tdoc WG2 009/99): The parameters for RLCMAC-ERROR and RLCMAC-STATUS are FFS.]

8.3 Primitives between MAC and RRC

8.3.1 Primitives

The primitives between MAC and RRC are shown in Table 8.3.1

Generic Name	Type				Parameters
	Request	**Indication**	**Response**	**Confirm**	
CMAC-CONFIG	X				UE information elements RAB information elements TrCH information elements RACH transmission control elements Ciphering elements ~~CHI~~
~~CMAC-CONNECT~~	~~X~~			~~X~~	~~ffs~~
CMAC-MEASUREMENT	X	X			Measurement information elements ~~TRIG. TH, RESULT, PER~~
CMAC-STATUS		X			Status info.
~~CMAC-ERROR~~		~~X~~			~~Reason for error~~

Table 8.3.1 Primitives between MAC sub-layer and RRC

CMAC-CONFIG ~~-~~Req~~uest~~

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

~~CMAC-CONNECT Request/Confirm~~

~~- CMAC-CONNECT Request is used initiate a RRC connection~~
~~- CMAC-CONNECT Confirm is used to confirm the establishment of a RRC connection.~~

CMAC-MEASUREMENT ~~-~~Req~~uest~~/Ind~~ication~~

- CMAC-MEASUREMENT ~~-~~Req~~uest~~ is used by RRC to request MAC to perform measurements, e.g. traffic volume measurements. ~~to measure something radio quality at both BS and MS sides. (for example : Transport Block Error)~~
- CMAC-MEASUREMENT ~~-~~Ind~~ication~~ is used to notify RRC of the measur~~ementing~~ result.

CMAC-STATUS ~~-~~Ind~~ication~~

- CMAC-STATUS ~~-~~Ind~~ication~~ primitive notifies RRC~~the management entity~~ of status information.

~~CMAC-ERROR Indication~~

- ~~CMAC-ERROR Indication primitive notifies the management entity of an error detected in the operation of the MAC sub-layer protocol such as excessive number of transmission attempts for Ack-mode. and timer time out.~~

8.3.2 Parameters

See 25.331 for a detailed description of the UE, RAB and TrCH information elements.

~~a)Channel Information (CHI)~~

~~Channel information for active transport channel. For example, common channel or dedicated channel notification in user packet transmission.~~

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

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

c)   TrCH information elements
      Transport Format Combination Set

d)   Measurement information elements
      (Details are ffs)

~~b)TH~~
      ~~Threshold information for measurement. For example, traffic monitor or transmission quality. When an specific value is assigned, it means measuring should be reported with law data.~~

~~c)PER~~
      ~~Period information for measurement. When an specific value is assigned, it means measuring should be reported only when measuring result exceed the given threshold.~~

~~d)TRIG~~
      ~~Trigger information which request to start measuring.~~

~~e)RESULT~~
      ~~Measurement result~~.

~~f)~~e)   Status info
      Maximum number of preamble ramping cycles reached.
      ~~It is management entity of status information.~~

~~g)Reason for error~~
      ~~It contains the management entity of an error detected in the operation of the MAC sub layer protocol (e.g. excessive number of transmission attempts for Ack mode).~~

f)   RACH transmission control elements
      Persistence value P
      Maximum number of preamble ramping cycles M_{max}
      Others (ffs., e.g. minimum and maximum number of time units between two preamble ramping cycles)

g)   Ciphering elements
      Ciphering mode
      Ciphering key
      Ciphering sequence number

~~[Note(from Tdoc WG2 009/99):   If used with a threshold information, the MEASURE primitive is same as an alarm indication or request for channel switching. When the condition that channel switching is needed is detected at UE side, appropriate RRC message will be sent to Network side.~~