

CN is invited to endorse these CRs to be passed to SMG#29 for approval.

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**ETSI STC SMG2WPA**

**Tdoc 2a99 396**

**Chicago, USA**

**15<sup>th</sup> .. 19<sup>th</sup> March 99**

**References to 04.08 from within 04.60 and viser versa**

**From: SMG2 WPA**

**To : SMG3**

The attached CRs were presented to SMG2 for inclusion into 04.60. The text in this CR deals with coding rules when there are references between CSN.1 and 04.08 IEs. SMG2 WPA felt that the subject of this CR is relevant to 04.07 which is under control of SMG3.

SMG2 WPA would like SMG3 to consider the text in 2A99-256 which has been suggested and possibly draft a CR to 04.07 to cover this and the coding rules when 04.08 fields are referenced see attached 2A99-379.

SMG2 WPA sees that the coding rules are needed when references between 04.08 to CSN.1 coding in 04.60 (and viser versa) is made, particularly when the different IE types and fields/elements are referenced between these two specifications.

<b>CHANGE REQUEST No :</b> <span style="background-color: yellow;">A237</span>	
Technical Specification GSM <span style="background-color: yellow;">04.60</span>	Version: <span style="background-color: yellow;">6.3.0</span>
Submitted to SMG <span style="background-color: yellow;">                    </span> for approval <span style="background-color: yellow;">                    </span>	without presentation ("non-strategic") <span style="background-color: yellow;">                    </span>
<i>list SMG plenary meeting no. here ↑</i>	for information <span style="background-color: yellow;">                    </span> with presentation ("strategic") <span style="background-color: yellow;">                    </span>

**Proposed change affects:** SIM  ME  Network   
*(at least one should be marked with an X)*

**Work item:** GPRS

**Source:** Ericsson **Date:** 1999-03-10

**Subject:** Mapping of 04.08 Information elements onto a 04.60 CSN.1 encoded message

<b>Category:</b> <i>(one category and one release only shall be marked with an X)</i>	F Correction	<input checked="" type="checkbox"/>	<b>Release:</b>	Phase 2	<input type="checkbox"/>
	A Corresponds to a correction in an earlier release	<input type="checkbox"/>		Release 96	<input type="checkbox"/>
	B Addition of feature	<input type="checkbox"/>		Release 97	<input checked="" type="checkbox"/>
	C Functional modification of feature	<input type="checkbox"/>		Release 98	<input type="checkbox"/>
	D Editorial modification	<input type="checkbox"/>		Release 99	<input type="checkbox"/>

**Reason for change:** The mapping of octets defined within GSM 04.08 onto a CSN.1 encoded message in GSM 04.60 is not clearly specified.

**Clauses affected:** 11

<b>Other specs affected:</b>	Other releases of same spec	<input type="checkbox"/>	→ List of CRs:	
	Other core specifications	<input type="checkbox"/>	→ List of CRs:	
	MS test specifications / TBRs	<input type="checkbox"/>	→ List of CRs:	
	BSS test specifications	<input type="checkbox"/>	→ List of CRs:	
	O&M specifications	<input type="checkbox"/>	→ List of CRs:	

**Other comments:**

# 11 Message functional definitions and contents

This clause defines the structure of the RLC/MAC control messages. These are non-standard L3 messages as defined in GSM 04.07. The formats for the messages are valid only for the PDCH. The format for RLC/MAC control messages for use on the CCCH are defined in GSM 04.08.

Each definition given in the present clause includes:

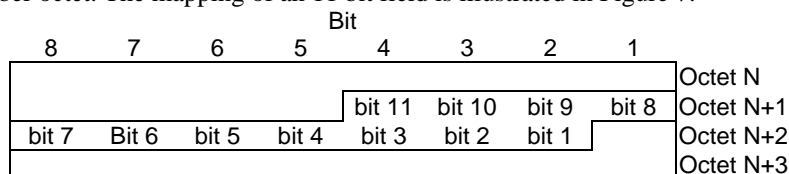
- a brief description of the message direction and use;

A CSN.1 description of the message information elements and fields (see GSM 04.07). Definition of information elements may immediately follow the definition of the message. If the definition of an information element immediately follows the message definition, the information element name ends with “struct”. Otherwise the information element name ends with “IE” and the definition of the information element is defined in Clause 12 or in GSM 04.08;

A note specifying, where appropriate, conditions for information elements or fields with presence requirement C or O in the relevant message which together with other conditions specified in GSM 04.60 define when the information elements shall be included or not, what non-presence of such information elements or fields means, and - for IEs with presence requirement C - the static conditions for presence and/or non-presence of the information elements or fields (see GSM 04.07);

A table follows which contains a definition for each field referenced in the message definition or in an information element struct immediately following the message definition.

Bit fields within RLC/MAC messages shall have the highest numbered bit of the bit field in the highest numbered bit of the lowest number octet. The mapping of an 11 bit field is illustrated in Figure 7.



**Figure 7: Field mapping within RLC/MAC messages**

The notations “L” and “H” are used to denote the respectively the bit value corresponding to the spare padding bit for that position, and the other value (see GSM 04.07).

When a CSN.1 encoded message in GSM 04.60 is referencing a certain information element from GSM 04.08 the following rule shall apply:

The bit number 8 of the lowest numbered octet of the GSM 04.08 information element shall be mapped as the first bit in the CSN.1 encoded bit string and the bit number 1 of the highest numbered octet of the GSM 04.08 information element shall be mapped as the last bit in the CSN.1 encoded bit string.

## 11.1 Handling of erroneous protocol data

Handling of unknown, unforeseen, and erroneous protocol data shall be as defined in clause 8 of GSM 04.08

## 11.2 RLC/MAC control messages

Table **Error! Bookmark not defined.** summarises the RLC/MAC control messages. For each control message, the message type shall be a fixed number of bits from the beginning of the message.



**Reason for change:**

In order to allow a class A or B mobile in a mode 1 or 3 network which supports PCCCH channels to transmit a RACH without BCCH decoding, some useful informations on BCCH must be duplicated on PBCCH.

Therefore the following parameters : BS\_AG\_BLK\_RES (determination of CCCH\_GROUP), BS\_PA\_MFRMS (determination of CCCH\_GROUP), CCCH\_CONF, MAX\_RETRANS, TX\_INTEGER, emergency call allowed, maximum power level on CCCH are added in Non GPRS Cell Options IE.

**Clauses affected:**

11.2.18 Packet System Information Type 1

12.27 Non GPRS Cell Options IE

**Other specs**

Other releases of same spec

→ List of CRs:

**affected:**

Other core specifications

→ List of CRs:

MS test specifications / TBRs

→ List of CRs:

BSS test specifications

→ List of CRs:

O&M specifications

→ List of CRs:

**Other comments:**



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

### 11.2.18 Packet System Information Type 1

This message is sent by the network on the PBCCH or PACCH giving information for Cell selection, for control of the PRACH, for description of the control channel(s) and optional global power control parameters. This message shall not be segmented across more than one RLC/MAC control block by using the procedures specified in subclause 9.1.11a. Special requirements for the transmission of this message apply on the PBCCH, see GSM 05.02

Message type: PACKET SYSTEM INFORMATION TYPE 1

Direction: network to mobile station

**Table 1: PSI1 information elements**

< PSI1 message content > ::=	
	< <b>PSI1 message type</b> : bit (6) >
	< <b>PAGE_MODE</b> : bit (2) >
	< <b>PBCCH_CHANGE_MARK</b> : bit (3) >
	< <b>PSI_CHANGE_FIELD</b> : bit (4) >
	< <b>MEASUREMENT_ORDER</b> : bit (1) >
	< <del><b>TX_INTEGER</b> : bit (4)</del> >
	< <b>GPRS Cell Options</b> : GPRS Cell Options IE >
	< <b>PRACH Control Parameters</b> : PRACH Control Parameters IE >
	< <b>PCCCH Organization Parameters</b> : PCCCH Organization
Parameters IE >	
	< <b>Global Power Control Parameters</b> : Global Power Control
Parameters IE >	
	< spare padding > ;

**Table 2: PSI1 information element details**

**GPRS Cell Options**

This information element is defined in subclause 12.22

**Global Power Control Parameters IE**

This information element is defined in subclause 12.9.

**MEASUREMENT ORDER** (1 bit field)

The MEASUREMENT ORDER field indicates if set = 0 that the mobile station is in control of the cell re-selection in both packet idle mode and packet transfer mode (= NC0 in GSM 05.08) and that the mobile station shall not send any measurement reports to the network (= NC0 and = EM0 in GSM 05.08). It also indicates that the Optional PSI5 message is not broadcast.

If set = 1 the mobile station shall send measurement reports for cell re-selection and/or for extended measurements to the network. Further cell re-selection and measurement details are included in the PSI5 message.

**PAGE\_MODE** (2 bit field)

This field describes which type of page mode used, i.e. either normal paging, extended paging, paging reorganization or same as before from the previous page mode. The mobile station shall ignore this field if the message is received on the PACCH. Coding of this field is defined in GSM 04.08.

**PBCCH\_CHANGE\_MARK** (3 bit field)

The PBCCH\_CHANGE\_MARK field is a 3 bit counter incremented with one each time information has been changed in one or more of the broadcast PSI2-PSIn messages on PBCCH (n>2).

**PSI\_CHANGE\_FIELD** (4 bit field)

The PSI\_CHANGE\_FIELD is a 4 bit value reflecting which PSI message or group of instantiated PSI message was most recent updated when the PBCCH\_CHANGE\_MARK was last incremented. If more than one PSI message or group of instantiated PSI message were changed at the same time, the PSI\_CHANGE\_FIELD indicates unspecified updates.

Range 0 – 15.

Bit

4 3 2 1

0 0 0 0 Update of unspecified PSI message(s);

0 0 0 1 Unknown

0 0 1 0 PSI2 updated

0 0 1 1 PSI3/PSI3bis updated

0 1 0 0 PSI4 updated

0 1 0 1 PSI5 updated

All other values shall be interpreted as 'update of unknown SI message type'.

**TX\_INTEGER** (4bit field)

~~This field is the binary representation of the TX integer parameter used by a GPRS mobile station that may request a dedicated resource on RACH. The coding is defined in the RACH Control Parameters IE in GSM 04.08.~~

**PCCCH Organization Parameters IE**

This information element is defined in subclause 12.x

**PRACH Control Parameters IE**

This information element is defined in subclause 12.14.

12.27 Non GPRS Cell Options IE

The *Non GPRS Cell Options IE* is used to provide mobile stations operating in mode A or B with a repeated subset of BCCH information required for entering dedicated, group receive or group transmit mode.

**Table 12.25a/GSM 04.60 : Non GPRS Cell Options information element**

<b>&lt; Non GPRS Cell Options IE &gt; ::=</b>	
<b>&lt; ATT : bit &gt;</b>	-- Attach/Detach allowed
<b>{ 0   1 &lt; T3212 : bit (8) &gt; }</b>	-- Time-out value for
<b>periodic update</b>	
<b>&lt; NECI : bit &gt;</b>	-- Half rate support
<b>&lt; PWRC : bit &gt;</b>	-- Power Control indicator
<b>&lt; DTX : bit (2) &gt;</b>	-- DTX indicator
<b>&lt; RADIO-LINK-TIMEOUT : bit (4) &gt;</b>	-- Supervisory timer for RR
<b>connection</b>	
<b>&lt; BS-AG-BLKS-RES : bit (3) &gt;</b>	<u>number of blocks reserved for</u>
<b>access grant</b>	
<b>&lt; CCCH-CONF : bit(3) &gt;</b>	<u>physical channel</u>
<b>configuration for CCCH</b>	
<b>&lt; BS-PA-MFRMS : bit (3) &gt;</b>	<u>number of 51 multiframes</u>
<b>between</b>	
<b>transmission of paging messages</b>	
<b>&lt; MAX-RETRANS : bit (2) &gt;</b>	<u>Maximum number of</u>
<b>retransmissions</b>	
<b>&lt; TX-INTEGGER : bit (4) &gt;</b>	<u>Number of slots to spread</u>
<b>transmission</b>	
<b>&lt; EC : bit &gt;</b>	<u>Emergency call allowed</u>
<b>&lt; MS-TXPWR-MAX-CCCH : bit(5) &gt;</b>	<u>Maximum Tx power level</u>
<b>-- Possible future extension:</b>	
<b>{ 0   1 &lt; Extension Bits IE &gt; } ;</b>	<b>-- sub-clause 12.24</b>

**Table 12.25b/GSM 04.60: Non GPRS Cell Options information element details**

For detailed descriptions of all elements see GSM 04.08

If the optional T3212 parameter is not included, no periodic updating shall be performed.