3GPP TSG_CN **Tdoc NP-000279**
Plenary Meeting #8, Dusseldorf, Germany
21st – 23rd June 2000.

Source: **TSG_N WG "1"**

Title: **CRs to 3G Work Item "EDGE"**

Agenda item: **6.5**

Document for: **APPROVAL**

Introduction:

This document contains **"1"** CRs on **Work Item "EDGE",** that have been agreed by **TSG_N WG "1",** and are forwarded to **TSG_N Plenary** meeting #8 for approval.

Tdoc	Spec	CR	Rev	CAT	Rel.	Old Ver	New Ver	Subject
N1-000780	24.008	CR201	1	F	R99	3.3.1	3.4.0	COMPACT Mobile Station Interference Measurements Capability

3GPP CN WG1 Meeting #12
Hawaii, USA, 22.-26. May 2000

Document ***N1-000780*** ~~***N1-000640***~~

e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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

24.008	CR	201r1	Current Version:	3.3.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSGN #8	for approval	X	Strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic	X	

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	X

Source: UWCC, Nokia **Date:** 11.04.2000

Subject: COMPACT Mobile Station Interference Measurements Capability

Work item: Support for EGPRS in ANSI-136 Networks (EDGE Compact)

Category: *(only one category Shall be marked With an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: Interference Measurements are made optional for R99 COMPACT mobiles.

Clauses affected: 10.5.5.12a

Other specs Affected:

Other 3G core specifications		→ List of CRs:
Other GSM 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.

10.5.5.12a MS Radio Access capability

The purpose of the *MS RA capability* information element is to provide the radio part of the network with information concerning radio aspects of the mobile station. The contents might affect the manner in which the network handles the operation of the mobile station.

The *MS RA capability* is a type 4 information element, , with a maximum length of 52 octets.

The value part of a *MS RA capability* information element is coded a shown table 10.5.146/TS 24.008.

– SEMANTIC RULE : Among the three Access Type Technologies GSM 900-P, GSM 900-E and GSM 900-R only one shall be present.

– The MS shall indicate supported Access Technology Types. e.g. [450, 480, 900, 1800, UMTS] or [850, 1900] MHz bands during a single MM procedure.

– Error handling : If a received Access Technology Type is unknown to the receiver, it shall ignore all the corresponding fields;

– If within a known Access Technology Type a receiver recognizes an unknown field it shall ignore it.

– See more details about error handling of MS radio access capability in TS GSM 08.18.

- Due to shared radio frequency channel numbers between 1800 and 1900, the mobile should provide the relevant MS Radio Access capability for either 1800 band OR 1900 band, not both.

Table 10.5.146/TS 24.008 : *Mobile Station Radio Access Capability* Information Element

< MS Radio Access capability IE > ::=
<**MS Radio Access capability IEI** : 00100100 >
<**Length of MS RA capability**: <octet>> -- *length in octets of MS RA capability value part and spare bits*
<**MS RA capability value part** : < MS RA capability value part struct >>
<spare bits>**; -- *may be used for future enhancements*

<MS RA capability value part struct >::= --*recursive structure allows any number of Access technologies*
< **Access Technology Type**: bit (4) >
< **Access capabilities** : <Access capabilities struct> >
{ 0 | 1 <MS RA capability value part struct> } ;

< Access capabilities struct > ::=
< **Length** : bit (7) > -- length in bits of Content and spare bits
<Access capabilities : <Content>>
<spare bits>** ; -- expands to the indicated length
-- may be used for future enhancements

< Content > ::=
< **RF Power Capability** : bit (3) >
{ 0 | 1 <**A5 bits** : <A5 bits> > } -- *zero means that the same values apply for parameters as in the immediately preceeding Access capabilities field within this IE*
-- *The presence of the A5 bits is mandatory in the 1st Access capabilities struct within this IE.*
< **ES IND** : bit >
< **PS** : bit >
< **VGCS** : bit >
< **VBS** : bit >
{ 0 | 1 < **Multislot capability** : Multislot capability struct > } ; -- *zero means that the same values for multislot parameters as given in an earlier Access capabilities field within this IE apply also here*
{ 0 | 1 < **8PSK Power Capability** : bit(2) >} – *'1' also means 8PSK modulation capability in uplink.*
< COMPACT Interference Measurement Capability : bit >
-- error: struct too short, assume features do not exist
-- error: struct too long, ignore data and jump to next Access technolgy

Table 10.5.146/TS 24.008 (continued): *Mobile Station Radio Access Capability* Information Element

< Multislot capability struct > ::=
{ 0 | 1 < **HSCSD multislot class** : bit (5) > }
{ 0 | 1 < **GPRS multislot class** : bit (5) > < **GPRS Extended Dynamic Allocation Capability** : bit > }
{ 0 | 1 < **SMS_VALUE** : bit (4) > < **SM_VALUE** : bit (4) > } ;
{ 0 | 1 < **ECSD multislot class** : bit (5) > }
{ 0 | 1 < **EGPRS multislot class** : bit (5) > < **EGPRS Extended Dynamic Allocation Capability** : bit > };

<A5 bits> ::= < A5/1 : bit> <A5/2 : bit> <A5/3 : bit> <A5/4 : bit> <A5/5 : bit> <A5/6 : bit> <A5/7 : bit>; -- bits for circuit mode ciphering algorithms

Access Technology Type
This field indicates the access technology type to be associated with the following access capabilities.

Bits
4 3 2 1
0 0 0 0 GSM P
0 0 0 1 GSM E --*note that GSM E covers GSM P*
0 0 1 0 GSM R --*note that GSM R covers GSM E and GSM P*
0 0 1 1 GSM 1800
0 1 0 0 GSM 1900
0 1 0 1 GSM 450
0 1 1 0 GSM 480
0 1 1 1 GSM 850
All other values are treated as unknown by the receiver.

RF Power Capability
This field is coded as radio capability in Classmark 3 for the indicated band: it contains the binary coding of he power class associated (see GSM 05.05 paragraph 4.1 output power and paragraph 4.1.1 Mobile Station).

8PSK Power Capability
This field is coded according to the definition in GSM 05.05. The presence of this field indicates also 8PSK modulation capability in uplink.

A5/1
0 encryption algorithm A5/1 not available
1 encryption algorithm A5/1 available
A5/2
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available
A5/3
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available
A5/4
0 encryption algorithm A5/4 not available
1 encryption algorithm A5/4 available
A5/5
0 encryption algorithm A5/5 not available
1 encryption algorithm A5/5 available
A5/6
0 encryption algorithm A5/6 not available
1 encryption algorithm A5/6 available
A5/7
0 encryption algorithm A5/7 not available
1 encryption algorithm A5/7 available

ES IND – (Controlled early Classmark Sending)
0 "controlled early Classmark Sending" option is not implemented
1 "controlled early Classmark Sending" option is implemented

PS – (Pseudo Synchronisation)
0 PS capability not present
1 PS capability present

VGCS – (Voice Group Call Service)
0 no VGCS capability or no notifications wanted
1 VGCS capability and notifications wanted.

Table 10.5.146/TS 24.008 (concluded): *Mobile Station Radio Access Capability* Information Element

VBS – (Voice Broadcast Service)
0 no VBS capability or no notifications wanted
1 VBS capability and notifications wanted

HSCSD Multi Slot Class
The Multi Slot Class field is coded as the binary representation of the multislot class defined in TS GSM 05.02. Range 1 to 18, all other values are reserved.

GPRS Multi Slot Class
The GPRS Multi Slot Class field is coded as the binary representation of the multislot class defined in TS GSM 05.02.

ECSD Multi Slot Class
The presence of this field indicates ECSD capability. Whether the MS is capable of 8-PSK modulation in uplink is indicated by the presence of 8-PSK Power Capability field. The Multi Slot Class field is coded as the binary representation of the multislot class defined in TS GSM 05.02.
Range 1 to 18, all other values are reserved.

EGPRS Multi Slot Class
The presence of this field indicates EGPRS capability. Whether the MS is capable of 8-PSK modulation in uplink is indicated by the presence of 8-PSK Power Capability field. The EGPRS Multi Slot Class field is coded as the binary representation of the multislot class defined in TS GSM 05.02.

GPRS Extended Dynamic Allocation Capability
0 Extended Dynamic Allocation Capability for GPRS is not implemented
1 Extended Dynamic Allocation Capability for GPRS is implemented
EGPRS Extended Dynamic Allocation Capability
0 Extended Dynamic Allocation Capability for EGPRS is not implemented
1 Extended Dynamic Allocation Capability for EGPRS is implemented

SMS_VALUE (Switch-Measure-Switch) (4 bit field)
The SMS field indicates the time needed for the mobile station to switch from one radio channel to another, perform a neighbor cell power measurement, and the switch from that radio channel to another radio channel.

Bits
4 3 2 1

0 0 0 0 1/4 timeslot (~144 microseconds)
0 0 0 1 2/4 timeslot (~288 microseconds)
0 0 1 0 3/4 timeslot (~433 microseconds)
. . .
1 1 1 1 16/4 timeslot (~2307 microseconds)

(SM_VALUE) Switch-Measure (4 bit field)
The SM field indicates the time needed for the mobile station to switch from one radio channel to another and perform a neighbour cell power measurement.

Bits
4 3 2 1
0 0 0 0 1/4 timeslot (~144 microseconds)
0 0 0 1 2/4 timeslot (~288 microseconds)
0 0 1 0 3/4 timeslot (~433 microseconds)
. . .
1 1 1 1 16/4 timeslot (~2307 microseconds)

COMPACT Interference Measurement Capability
0 COMPACT Interference Measurement Capability is not implemented
1 COMPACT Interference Measurement Capability is implemented