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Technical Specification

3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network; Release independent Downlink Advanced Receiver Performance (DARP); Implementation guidelines (Release 1999)

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document specifies requirements on MSs supporting Downlink Advanced Receiver Performance (DARP) that are independent of release. TSG GERAN has agreed that the standardisation of DARP be independent of a release. However, in order to implement an MS that conforms to a particular release but supports DARP, which is specified in a later release, it is necessary to specify some extra requirements.

DARP is contained in the Release 6 specifications. In order to implement an MS conforming to Release 99 but supporting DARP, it is necessary for the MS to additionally conform to some parts of the Release 6 specifications, such as the radio frequency requirements for DARP and some signalling extensions relating to the MS Classmark and radio access capabilities.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 45.005: "Radio transmission and reception (Release 6)".

[2] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core Network protocols; Stage 3 (Release 6)".

3 Definitions and abbreviations

Unless listed below, all definitions and abbreviations used in the present document are listed in documents referenced in clause 2.

3.1 Abbreviations

For the purposes of the present document, the following abbreviations apply:

DARP Downlink Advanced Receiver Performance

4 DARP MS Independent of Release

MSs that conform to Release 99 and support DARP shall support the following requirements in Release 6.

4.1 RF Requirements

The MS shall comply with the RF requirements for DARP specified in [1]. These requirements are:

Section 6.3: Reference interference level.

4.2 Signalling Requirements

The MS shall support the following information elements specified in [2]:

Section 10.5.1.7 Mobile Station Classmark 3, with the following exceptions:

- Fields *GSM 750 Associated Radio Capability*, *Extended DTM GPRS Multi Slot Class / Extended DTM EGPRS Multi Slot Class*, *High Multislot Capability*, *GERAN Iu mode Capabilities*, *T-GSM 400 Bands Supported / T-GSM 400 Associated Radio Capability*, *T-GSM 900 Associated Radio Capability* and *DTM GPRS High Multi Slot Class / Offset required* / *DTM EGPRS High Multi Slot Class* shall be indicated as not present since they are not defined in Release 99. This is done by setting the indication bit to '0'.

- Parameters *UMTS 1.28 Mcps TDD Radio Access Technology Capability*, *GERAN Feature Package 1*, *GERAN Feature Package 2* and *DTM Enhancements Capability* shall be indicated as not supported since they are not defined in Release 99. This is done by setting the bit value '0' for each of these parameters.

- In addition, for *DTM GPRS Multi Slot Class*, the value '11' shall not be used since Multislot class 11 is not supported in Release 99; and for GMSK Multislot Power Profile and 8-PSK Multislot Power Profile, the value '00' shall be used as it indicates the same power reduction as defined in Release 99 except that the Release 99 MS might be transmitting at 1dB higher than indicated by this parameter.

Section 10.5.5.12a MS Radio Access Capability, with the following exceptions:

- Fields *Extended DTM GPRS Multi Slot Class* / *Extended DTM EGPRS Multi Slot Class*, *High Multislot Capability*, *GERAN Iu Mode Capabilities* and *DTM GPRS High Multi Slot Class / DTM EGPRS High Multi Slot Class* shall be indicated as not present since they are not defined in Release 99. This is done by setting the indication bit to '0'.

- Parameters *UMTS 1.28 Mcps TDD Radio Access Technology Capability*, *GERAN Feature Package 1*, *Modulation based multislot class support*, *Multiple TBF Capability*, *Extended RLC/MAC Control Message Segmentation Capability*, *DTM Enhancements Capability* and *PS Handover Capability* shall be indicated as not supported since they are not defined in Release 99. This is done by setting the bit value '0' for each of these parameters.

- In addition, for *Access Technology Type*, the values '1000' through to '1011' shall not be used since GSM 750, GSM T 380, GSM T 410 and GSM T 900 are not supported in Release 99; for *DTM GPRS Multi Slot Class*, the value '11' shall not be used since Multislot class 11 is not supported in Release 99; and for GMSK Multislot Power Profile and 8-PSK Multislot Power Profile, the value '00' shall be used as it indicates the same power reduction as defined in Release 99 except that the Release 99 MS might be transmitting at 1dB higher than indicated by this parameter.

NOTE: The lack of one or more of the fields following the Downlink Advanced Receiver Performance field in Mobile Station Classmark 3 IE or MS Radio Access Capability IE should not be considered as an error by the network. In this case the meaning "not supported" or "not present" should be assumed as indicated above.

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2004-11	22	GP-042852			Version for Release 1999		8.0.0
2006-01	28	GP-060328	A002	2	Release independent DARP Implementation guidelines update	8.0.0	8.1.0