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Digital cellular telecommunications system (Phase 2+);
Data Link (DL) Layer;
General aspects
(3GPP TS 44.005 version 13.0.0 Release 13)

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Contents

Foreword

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

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1 Scope

The present document describes in general terms the Link Access Procedures on the Dm channel, LAPDm. The application of this protocol to other channel types is for further study. Details are provided in 3GPP TS 44.006.

The purpose of LAPDm is to convey information between layer 3 entities across the GSM PLMN radio interface (MS to network interface) using the Dm channel.

NOTE 1: The term Dm channel is used for convenience to designate the collection of all the various signalling channels required in the GSM system. See also 3GPP TS 44.003.

The definition of LAPDm is based on the principles and terminology of:

- ITU-T Recommendations X.200 and X.210: the reference model for Open Systems Interconnection (OSI);
- ITU-T Recommendations Q.920 and Q.921: the specification of LAPD for the user-network interface in ISDN;
- ITU-T Recommendation X.25 LAPB: user-network interface for packet mode terminals; and
- ISO/IEC 3309 and ISO 4335: High-level Data Link Control (HDLC) standards for frame structure and elements of procedures.

LAPDm is a protocol that operates at the data link layer of the OSI architecture. The relationship between the data link layer and other protocol layers is defined below.

NOTE 2: The interface between the mobile station and external terminal equipment/terminal adapters is defined in the Technical Specifications of the GSM 07-series.

NOTE 3: The physical layer on the radio interface is defined in 3GPP TS 44.004 and layer 3 is defined in 3GPP TS 24.007, 3GPP TS 44.018, 3GPP TS 24.010 and 3GPP TS 24.011. Reference should be made to these Technical Specifications for the complete definitions of the protocols and procedures across the GSM PLMN radio interface.

NOTE 4: The term "data link layer" is used in the main text of the present document. However, mainly in figures and tables, the terms "layer 2" and "L2" are used abbreviations. Furthermore, in accordance with 3GPP TS 24.007 and 3GPP TS 44.018 the term "layer 3" is used to indicate the layer above the data link layer.

LAPDm is independent of the transmission bit rate. It requires physical channels with characteristics as defined in 3GPP TS 44.003.

Clause 2 below describes basic concepts used in the present document and 3GPP TS 44.006.

Clause 3 gives an overview description of LAPDm functions and procedures.

Clause 4 summarizes the services that the data link layer provides to layer 3 and the services that the data link layer requires from the physical layer.

Clause 5 provides an overview of the data link layer structure.