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Technical Specification

GEO-Mobile Radio Interface Specifications (Release 2);
General Packet Radio Service;
Part 4: Radio interface protocol specifications;
Sub-part 8: Mobile Radio Interface Layer 3 Specifications;
GMPRS-1 04.008

Reference

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Foreword

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Version 2.m.n

where:

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The present document is part 4, sub-part 8 of a multi-part deliverable covering the GEO-Mobile Radio Interface Specifications (Release 2) General Packet Radio Service, as identified below:

Part 1: "General specifications";

Part 2: "Service specifications";

Part 3: "Network specifications";

Part 4: "Radio interface protocol specifications":

Sub part 1: "Mobile Earth Station-Gateway Station System (MES-GSS) Interface";

Sub part 2: "GMR-1 Satellite Network Access Reference Configuration";

Sub part 3: "Channel Structures and Access Capabilities";

Sub part 4: "Layer 1 General Requirements";

Sub part 5: "Data Link Layer General Aspects";

Sub part 6: "Mobile earth Station-Gateway Station Interface Data Link Layer Specifications";

Sub part 7: "Mobile Radio Interface Signalling Layer 3 General Aspects";

Sub part 8: "Mobile Radio Interface Layer 3 Specifications";

Sub part 9: "Performance Requirements on the Mobile Radio Interface";

Sub part 10: "Rate Adaptation on the Access Terminal-Gateway Station Subsystem (MES-GSS) Interface";

Sub part 11: "Radio Link Protocol (RLP) for Data Services";

Sub-part 12: "Mobile Earth Station (MES) - Base Station System (BSS) interface; Radio Link Control/ Medium Access Control (RLC/MAC) protocol";

Part 5: "Radio interface physical layer specifications";

Part 6: "Speech coding specifications";

Part 7: "Terminal adaptor specifications".

Introduction

GMR stands for GEO (Geostationary Earth Orbit) Mobile Radio interface, which is used for mobile satellite services (MSS) utilizing geostationary satellite(s). GMR is derived from the terrestrial digital cellular standard GSM and supports access to GSM core networks.

The present document is part of the GMR Release 2 specifications. Release 2 specifications are identified in the title and can also be identified by the version number:

- Release 1 specifications have a GMR-1 prefix in the title and a version number starting with "1" (V1.x.x.).
- Release 2 specifications have a GMPRS-1 prefix in the title and a version number starting with "2" (V2.x.x.).

The GMR release 1 specifications introduce the GEO-Mobile Radio interface specifications for circuit mode mobile satellite services (MSS) utilizing geostationary satellite(s). GMR release 1 is derived from the terrestrial digital cellular standard GSM (phase 2) and it supports access to GSM core networks.

The GMR release 2 specifications add packet mode services to GMR release 1. The GMR release 2 specifications introduce the GEO-Mobile Packet Radio Service (GMPRS). GMPRS is derived from the terrestrial digital cellular standard GPRS (included in GSM Phase 2+) and it supports access to GSM/GPRS core networks.

Due to the differences between terrestrial and satellite channels, some modifications to the GSM standard are necessary. Some GSM specifications are directly applicable, whereas others are applicable with modifications. Similarly, some GSM specifications do not apply, while some GMR specifications have no corresponding GSM specification.

Since GMR is derived from GSM, the organization of the GMR specifications closely follows that of GSM. The GMR numbers have been designed to correspond to the GSM numbering system. All GMR specifications are allocated a unique GMR number. This GMR number has a different prefix for Release 2 specifications as follows:

- Release 1: GMR-n xx.zyy.
- Release 2: GMPRS-n xx.zyy.

where:

- xx.0yy (z = 0) is used for GMR specifications that have a corresponding GSM specification. In this case, the numbers xx and yy correspond to the GSM numbering scheme.
- xx.2yy (z = 2) is used for GMR specifications that do not correspond to a GSM specification. In this case, only the number xx corresponds to the GSM numbering scheme and the number yy is allocated by GMR.
- n denotes the first (n = 1) or second (n = 2) family of GMR specifications.