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## Overview of Eutelsat Earth Station Standards



**eutelsat**  
communications via satellite

## EESS 100 REVISION HISTORY

<b>Issue /Revision</b>	<b>Revision Date</b>	<b>Pages revised since the last version</b>
1/0	14 April 1994	Original Issue
1/1	11 July 1994	i, 6, 7
2/0	17 October 1994	i, ii, 2, 3, 5, 6, 7
2/1	14 November 1994	i, 6, 7
3/0	17 August 1995	all pages
3/1	30 August 1996	i, 6, 7
4/0	6 December 1996	i, 6, 7
5/0	3 April 1998	i, 6
6/0	22 January 1999	i, 6, 7
7/0	March 2003	all
8/0	June 2004	i, 5
9/0	February 2005	i, 5
10/0	August 2006	i, 3, 5
11/0	October 2007	all

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## **1. INTRODUCTION**

Under Eutelsat procedures, approval of earth stations for access to the Eutelsat space segment is required (See ESOG Module 110).

Eutelsat recognises that it is the User's responsibility to establish compatibility between all earth stations within their network and to comply with Eutelsat criteria for minimising interference between earth stations and Eutelsat satellites on which space segment capacity is provided. In order to assist prospective Users in this respect, Eutelsat provides documents detailing performance characteristics which are necessary to achieve the following:

- (a) Satisfy technical requirements in order to obtain Eutelsat approval to access the space segment.
- (b) Qualify for acceptance as a "Standard" earth station when accessing the Eutelsat space segment.

The Eutelsat Earth Station Standards (EESS) are published by Eutelsat to provide Users with a common source of reference for performance characteristics required from earth stations and associated equipment for access to the Eutelsat space segment.

## 2. STANDARDS, SPECIFICATIONS AND GUIDELINES

The purpose of the format and numbering system of the EESS's is to allow documents to be readily identified as belonging to Eutelsat earth station standards, specifications or guidelines. It is necessary to distinguish between Eutelsat standards or specifications on the one hand and guidelines on the other hand.

An earth station standard gives the technical requirements and recommendations for an entire earth station from the RF equipment to baseband equipment.

Earth Station standards as well as system specifications have characteristics which are mandatory and are marked by a vertical line in the left-hand margin as shown for this paragraph, as an example.

The use of earth stations having performance characteristics and/or operational modes lower than those specified as mandatory, but meeting all other requirements, will be considered individually as they arise and on their merits. However, an earth station which does not meet all the mandatory requirements may demand additional satellite resources and, therefore, can attract higher space segment charges.

The EESS documents also contain "Guidelines" which are neither Standards nor Specifications and consequently do not contain mandatory requirements. Guidelines provide the technical and operational information necessary to establish transmissions for a particular service. The fact that it is a guideline and not a specification is indicated clearly on the cover page as well as by the number, which contains a 'G' (e.g. EESS 700 G).

The EESS's are available on the Eutelsat Extranet:

<http://services.eutelsat.fr>

Their access require a login and a password. For more information on how to access the Eutelsat Extranet, please contact [esapproval@eutelsat.fr](mailto:esapproval@eutelsat.fr).

### **3. EESS OVERVIEW**

The EESS comprises the following documents, as shown in Table 1.

EESS 100 (G) contains the introduction to the EESS and provides an overview of the documents.

EESS 501 (G) covers the standard structured utilization, or “open network” aspects. It specifies the baseband and modulation equipment for QPSK transmissions using either rate 3/4 or rate 1/2 FEC with VITERBI decoding. With rate 1/2 FEC, the user bit-rates covered range from 64 kbit/s to 2 Mbit/s (8 Mbit/s for rate 3/4 FEC).

EESS 502, the Standard M, gives the minimum technical and operational requirements for earth stations transmitting to a Eutelsat transponder.

Addendum to EESS 502, as a complement to EESS 502, describes the approval requirements for earth stations not fully complying with the standard M.

EESS 700 (G) provides information about the principal characteristics and frequency plans of the Eutelsat satellites.

#### **4. REVISION OF EESS DOCUMENTS AND DATE OF APPLICABILITY**

The purpose of the EESS format is to enable Users to readily identify documents relevant to the procurement of earth station equipment.

In general, revisions to standards, specifications or guidelines shall take effect from the date of issue of the revised standard, specification or guideline and revisions are not intended to be applied retrospectively. If, as a result of new safety regulations or radio regulations, a revision has to be applied retrospectively, this will be clearly stated in the revision.

**Table 1. EUTELSAT EARTH STATION STANDARDS & RELATED GUIDELINES**

EESS No.	Issue / Rev.	Date of Issue	Earth Station Standard	Title	Pages revised since last version	Status
100 (G)	11/0	October 2007	-	Overview of Eutelsat Earth Station Standards	all	
203	7/0	February 2005	I-1, I-2, I-3	Intermediate Rate Digital Carrier (IDC) Earth Station Standard I	all	Obsolete since 24/10/2007
400	12/0	August 2006	L	Minimum Technical and Operational Requirements for Earth Stations transmitting to Leased Capacity in the Eutelsat Space Segment - Standard L.	all	Obsolete since 24/10/2007
500	9/1	April 2005	S-1, S-2, S-3	Satellite Multiservice System (SMS) Earth Station Standard S	all	Obsolete since 24/10/2007
501 (G)	3/0	March 2004	-	SMS QPSK/FDMA System Specification	all	
502	11/0	October 2007	M	Minimum Technical and Operational Requirements	all	
502 - Addendum	1/0	October 2007	Mx	Nomenclature of Standard M-x	all	
700 (G)	2/0	October 2007	-	Overview of the Eutelsat Satellite Fleet	all	

Reference Documents Related to the Earth Station Standards: Eutelsat Satellite Handbooks ([www.eutelsat.com](http://www.eutelsat.com))