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**Methods of measurement on receivers for satellite broadcast transmissions in the 12 GHz band -- Part 1: Radiofrequency measurements on outdoor units (IEC 61079-1:1992) (IEC 61079-1:1992)**

Methods of measurement on receivers for satellite broadcast transmissions in the 12 GHz band -- Part 1: Radiofrequency measurements on outdoor units

Meßverfahren für Empfänger für Satellitenrundfunk-Übertragungen im 12-GHz-Bereich -- Teil 1: Radiofrequenz-Messungen an der Außeneinheit

Méthodes de mesure sur les récepteurs d'émissions de radiodiffusion par satellite dans la bande 12 GHz -- Partie 1: Mesures en radiofréquence sur le matériel extérieur

**Ta slovenski standard je istoveten z: EN 61079-1:1993**

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### ENGLISH VERSION

Methods of measurement on receivers for satellite broadcast transmissions in the 12 GHz band  
Part 1: Radio-frequency measurements on outdoor units  
(IEC 1079-1:1992)

Méthodes de mesure sur les récepteurs d'émissions de radiodiffusion par satellite dans la bande 12 GHz  
Partie 1: Mesures en radiofréquence sur le matériel extérieur  
(CEI 1079-1:1992)

Meßverfahren für Empfänger für Satellitenrundfunk-Übertragungen im 12-GHz-Bereich  
Teil 1: Radiofrequenz-Messungen an der Außeneinheit  
(IEC 1079-1:1992)

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This European Standard was approved by CENELEC on 1993-09-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

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## FOREWORD

At the request of the 73rd CENELEC Technical Board, the International Standard IEC 1079-1:1992 was submitted to the CENELEC Unique Acceptance Procedure (UAP) in November 1992 for acceptance as a European Standard.

The text of the International Standard was approved by CENELEC as EN 61079-1 on 22 September 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-09-01
- latest date of withdrawal of conflicting national standards (dow) 1994-09-01

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given only for information. In this standard, annex A is informative and annex ZA is normative.

## ENDORSEMENT NOTICE

The text of the International Standard IEC 1079-1:1992 was approved by CENELEC as a European Standard without any modification

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ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD  
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
107-1	1977	Recommended methods of measurement on receivers for television broadcast transmissions - Part 1: General considerations - Electrical measurements other than those at audio-frequencies	-	-
1079-2	1992	Methods of measurement on receivers for satellite broadcast transmissions in the 12 GHz band Part 2: Electrical measurements on DBS tuner units	EN 61079-2	1993

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Méthodes de mesure sur les récepteurs  
d'émissions de radiodiffusion par satellite  
dans la bande 12 GHz

Partie 1:

Mesures en radiofréquence sur le matériel extérieur  
(standards.iteh.ai)

Methods of measurement on receivers for  
satellite broadcast transmissions in  
the 12 GHz band

Part 1:

Radio-frequency measurements on outdoor units

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**METHODS OF MEASUREMENT ON RECEIVERS FOR  
SATELLITE BROADCAST TRANSMISSIONS  
IN THE 12 GHz BAND**
**Part 1: Radio-frequency measurements on outdoor units**


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## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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 This standard has been prepared by Sub-Committee 12A: Receiving equipment, of IEC Technical Committee No. 12: Radiocommunications.

The text of this standard is based on the following documents:

Six Months' Rule / DIS	Report on Voting	Two Months' Procedure	Report on Voting
12A(CO)131	12A(CO)135	12A(CO)149	12A(CO)164

Full information on the voting for the approval of this standard can be found in the Voting Reports indicated in the above table.

# METHODS OF MEASUREMENT ON RECEIVERS FOR SATELLITE BROADCAST TRANSMISSIONS IN THE 12 GHz BAND

## Part 1: Radio-frequency measurements on outdoor units

### SECTION 1 - GENERAL

#### 1.1 Scope

This International Standard applies to the outdoor unit of a receiver for the direct reception of satellite broadcast transmissions in the 12 GHz band. The channels are those defined by WARC BS-77 and RARC SAT-83 and the systems are those defined in CCIR Recommendation 650.

The object of this standard is to define the conditions and methods of measurement to be applied. The standard does not specify performance requirements.

An outdoor unit normally comprises three main parts, the antenna, the depolarizer and optional orthomode transducer (OMT), and the SHF converter as defined in clause 1.3. The methods of measuring the electrical properties described in this part of the standard apply particularly to the outdoor unit or the SHF converter.

Methods of measurement on the associated DBS tuner unit are described in Part 2 of this standard.

#### 1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication of this standard, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 107-1: 1977, *Recommended methods of measurement on receivers for television broadcast transmissions - Part 1: General considerations - Electrical measurements other than those at audio-frequencies.*

IEC 1079-2: 1992, *Methods of measurement on receivers for satellite broadcast transmissions in the 12 GHz band - Part 2: Electrical measurements on DBS tuner units.*

### 1.3 Definitions

For the purpose of this International Standard, the following definitions apply.

The outdoor unit is a part of the receiver for satellite broadcast transmissions in the 12 GHz band, and comprises three main parts:

- a) the antenna including the feed horn which receives the signals broadcast by satellites;
- b) the depolarizer that converts circular polarization to linear polarization and an optional orthomode transducer, OMT, which separates two incoming differently polarized signals into two independent SHF outputs;
- c) the SHF converter (also called low noise converter (LNC) or low noise block converter (LNB)), which is a device to convert the received signals in the 12 GHz band to intermediate frequencies (often called the first i.f.) usually in the range of approximately 1 GHz to 2 GHz, for application to one or more DBS tuner units, where demodulation and decoding of the received signals are performed.

## SECTION 2 - GENERAL NOTES ON MEASUREMENT

### 2.1 General conditions

#### 2.1.1 Introduction

Measurements shall be made in accordance with the following conditions to ensure reproducible results. The methods described here assume the use of the following transmission systems: digital sub-carrier/NTSC, B-MAC, C-MAC/packet, D-MAC/packet and D2 MAC/packet. Information pertaining to these systems may be found in the references listed in the bibliography given in annex A.

#### 2.1.2 Test site

Measurements shall be carried out at a location that is not subject to external interference from radio frequency energy. If interference cannot be avoided, the measurements shall be carried out in a screened room.

#### 2.1.3 Environmental conditions

Sections Three, Four and Five of IEC 107-1 shall be applied.

#### 2.1.4 Power supply

##### 2.1.4.1 Bias network

When measuring the characteristics of an outdoor unit, it is necessary to supply d.c. or a.c. power to it without influencing the output signal. For this purpose, a bias network such as that shown in figure 1 can be used.

NOTE - Reverse connection of the bias network (see figure 2) is likely to cause damage.