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*European Standard (Telecommunications series)*

**Electromagnetic compatibility  
and Radio spectrum Matters (ERM);  
Ground-based VHF hand-held, mobile and fixed radio  
transmitters, receivers and transceivers for the VHF  
aeronautical mobile service using amplitude modulation;  
Technical characteristics and methods of measurement**

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Reference

REN/ERM-TG25-020

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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

<b>National transposition dates</b>	
Date of adoption of this EN:	28 March 2003
Date of latest announcement of this EN (doa):	30 June 2003
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## Introduction

The present document states the minimum performance requirements for ground based radio transmitters, transceivers and receivers for the aeronautical mobile service operating in the VHF band (118 MHz to 136,975 MHz), using Double Sideband Amplitude Modulation with 8,33 kHz or 25 kHz channel spacing.

The present document may be used by accredited test laboratories for the assessment of the performance of the equipment. The performance of the equipment submitted for type testing should be representative for the performance of the corresponding production model.

The present document has been written on the assumption that:

- the type test measurements will be performed only once, in an accredited test laboratory and the measurements accepted by the various authorities in order to grant type approval;
- if equipment available on the market is required to be checked it will be tested in accordance with the methods of measurement specified in the present document.

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# 1 Scope

The present document states the minimum performance requirements for radio transmitters receivers and transceivers at ground-based aeronautical stations operating in the VHF band (118 MHz to 136,975 MHz) allocated to the aeronautical mobile service.

The present document applies to DSB AM systems, with channel separations of 8,33 kHz or 25 kHz intended for analogue speech and ground base stations with a channel spacing of 25 kHz intended for ACARS data communication.

The scope of the present document is limited to ground base stations, ground mobile and hand held radios for ground use.

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# 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 and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] ETSI ETR 028: "Radio Equipment and Systems (RES); Uncertainties in the measurement of mobile radio equipment characteristics".
- [2] ICAO annex 10 volume V (1996): "Aeronautical Radio Frequency Spectrum Utilization".
- [3] ITU-T Recommendation P.53: "Psophometer for use on telephone-type circuits".
- [4] ISO 7637 (parts 1 and 2): "Road vehicles - Electrical disturbances from conduction and coupling".

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# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

**aeronautical mobile service:** mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate

**conducted measurements:** measurements which are made using a direct RF connection to the equipment under test

**radiated measurements:** measurements which involve the measurement of a radiated field

**integral antenna equipment:** radio communications equipment with an antenna integrated into the equipment without the use of an external connector and considered to be part of the equipment

NOTE: An integral antenna may be internal or external to the equipment. In equipment of this type, a 50  $\Omega$  RF connection point shall be provided for test purposes. A connection point for an AF modulating input and for AF output measurements shall also be provided.

**ground base station:** aeronautical station equipment, in the aeronautical mobile service, for use with an external antenna and intended for use at a fixed location