

STN	Družicové zemské stanice a systémy (SES). Harmonizovaná norma na zemské stanice zabudované vo vozidle (VMES), pracujúce vo frekvenčných pásmach 12/14 GHz, vzťahujúca sa na základné požiadavky podľa článku 3.2 smernice 2014/53/EÚ.	STN EN 302 977 V2.1.1 87 2977
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Satellite Earth Stations and Systems (SES); Harmonised Standard for Vehicle-Mounted Earth Stations (VMES) operating in the 14/12 GHz frequency bands covering the essential requirements of article 3.2 of the Directive 2014/53/EU

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/17

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**Satellite Earth Stations and Systems (SES);
Harmonised Standard for Vehicle-Mounted
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covering the essential requirements
of article 3.2 of the Directive 2014/53/EU**

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Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Satellite Earth Stations and Systems (SES).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.5] to provide one voluntary means of conforming to the essential requirements of Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC [9].

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in table A.1 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

National transposition dates	
Date of adoption of this EN:	12 May 2016
Date of latest announcement of this EN (doa):	31 August 2016
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	28 February 2017
Date of withdrawal of any conflicting National Standard (dow):	28 February 2018

Modal verbs terminology

In the present document **"shall"**, **"shall not"**, **"should"**, **"should not"**, **"may"**, **"need not"**, **"will"**, **"will not"**, **"can"** and **"cannot"** are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"must" and **"must not"** are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

The present document is part of a set of standards developed by ETSI and is designed to fit in a modular structure to cover all radio equipment within the scope of the RE Directive [9]. The modular structure is shown in ETSI EG 201 399 [i.2].

1 Scope

The present document applies to Earth Stations located on board Vehicles, which have the following characteristics.

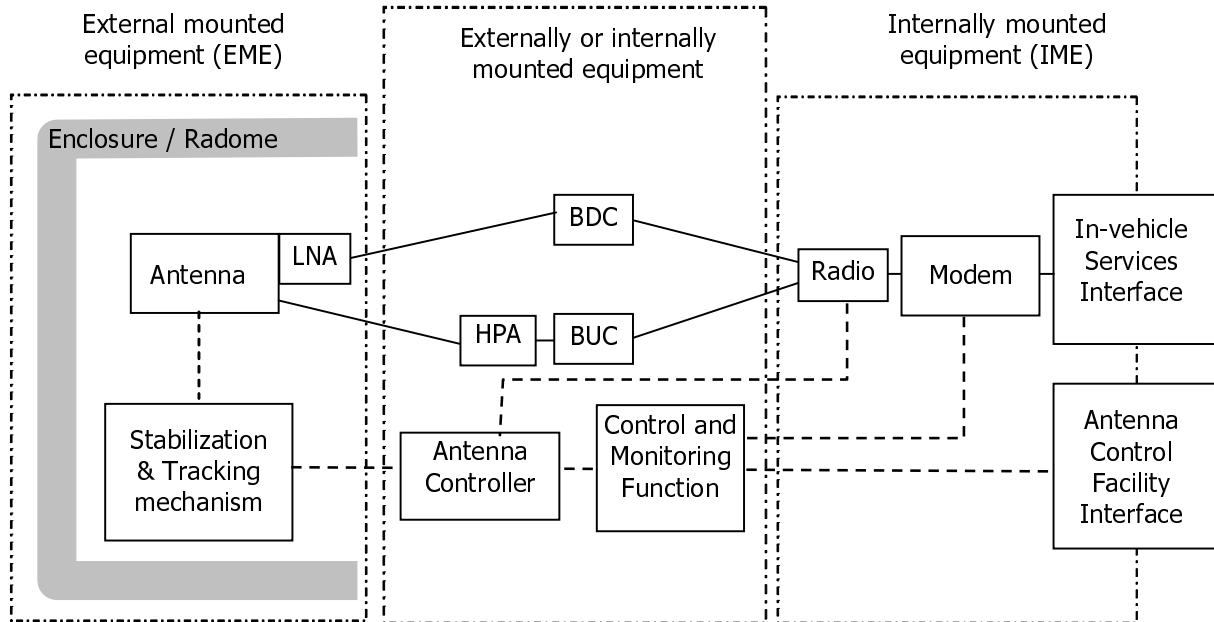


Figure 1: VMES System Overview

- The VMES may transmit and receive data when the vehicle is in motion and also when the vehicle is stationary.
- The VMES operates on wheeled or tracked vehicles and, therefore, may be subject to occasional disturbances and interruptions in the satellite link.
- The VMES is operating as part of a satellite network (e.g. star, mesh or point-to-point) used for the distribution and/or exchange of information.
- The VMES is comprised of all the equipment, electrical and mechanical, from the antenna itself to the interface with other communications equipment on a vehicle (usually referred to as the terrestrial interface).
- The VMES transmits on single carrier in the frequency range 14,00 GHz to 14,50 GHz, which is a band allocated to the Fixed Satellite Services (FSS) (Earth-to-space) among other services. However, operation of the VMES is intended to be restricted to the lower half of the band in and near those countries that have allocated Fixed Service (FS) to the upper half. Local regulation may permit operation in the upper half of the band.

NOTE 1: For the purposes of the present specification, OFDM modulation is considered as a single carrier.

- The VMES receives in one or more frequencies within the range from 10,70 GHz to 12,75 GHz in bands allocated to the Fixed Satellite Services (FSS) (space-to-Earth) or the Broadcast Satellite Service (BSS) (space-to-Earth), depending on the ITU Region where the VMES is located.
- The VMES uses linear or circular polarization.
- The VMES is designed to operate through a geostationary satellite (or a cluster of co-located geostationary satellites) that is at least 3° away from any other geostationary satellite operating in the same frequencies and over the same coverage area.

NOTE 2: Satellites may be spaced closer than 3°. In such cases, the satellite operator will inform the VMES client of the requirements of the system coordination agreements.

- The VMES transmits at elevations greater than or equal to 7° relative to the local horizon.
- The VMES is designed for unattended operation.
- The VMES is designed for both mobile and stationary operation. In the case of stationary operation, the VMES should not be accessible to the general public and operated safely.
- The VMES is controlled and monitored by an Antenna Control Facility (ACF). This function may be performed centrally (e.g. for a network of VMESs with a central hub) or it could be performed within the VMES for autonomous control. The ACF is outside the scope of the present document.

The present document applies to the VMES with its ancillary equipment and its various telecommunication ports, and when operated within the boundary limits of the operational environmental profile as declared by the applicant and when installed as required by the applicant's declaration or in the user documentation.

The present document is intended to cover the provisions of Directive 2014/53/EU [9] (RE Directive) article 3.2, which states that "... radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference".

NOTE 3: Operational requirements are defined by national administrations and by relevant ECC Decisions.

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of article 3 of the Directive 2014/53/EU [9] (RE Directive) may apply to equipment within the scope of the present document.

NOTE 4: A list of such ENs is included on the web site <http://www.newapproach.org/>.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- | | |
|-----|---|
| [1] | Void. |
| [2] | CISPR 16-1-1 Ed. 2.2 (2007): "Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus". |
| [3] | CISPR 16-1-5 (2003): "Specification for radio disturbance and immunity measuring apparatus and methods; Part 1-5: Radio disturbance and immunity measuring apparatus - Antenna calibration test sites for 30 MHz to 1 000 MHz". |
| [4] | CENELEC EN 60529 (1991): "Degrees of protection provided by enclosures (IP code)". |
| [5] | CENELEC EN 60068-2-6 (2008): "Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)". |
| [6] | CENELEC EN 60068-2-11 (1999): "Environmental testing - Part 2-11: Tests - Test Ka: Salt mist". |
| [7] | CENELEC EN 60068-2-27 (2007): "Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock". |

- [8] MIL STD 810F (2000): "DOD Test Method Standard for Environmental Engineering Considerations and Laboratory Tests".
- [9] Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC (RE Directive).

2.2 Informative references

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] Void.
- [i.2] ETSI EG 201 399: "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of Harmonized Standards for application under the Radio & Telecommunication Terminal Equipment Directive 1999/5/EC (R&TTE) and a first guide on the impact of the Radio Equipment Directive 2014/53/EU (RED) on Harmonized Standards".
- [i.3] ETSI TR 102 375: "Satellite Earth Stations and Systems (SES); Guidelines for determining the parts of satellite earth station antenna radiation patterns concerned by the geostationary satellite orbit protection".
- [i.4] ETSI TR 102 215: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Recommended approach, and possible limits for measurement uncertainty for the measurement of radiated electromagnetic fields above 1 GHz".
- [i.5] Commission implementing decision C(2015) 5376 final of 4.8.2015 on a standardisation request to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards radio equipment in support of Directive 2014/53/EU of the European Parliament and of the Council.

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