

STN	Režim 4-digitálneho spoja VHF (VDL) rádiových zariadení vzduch-zem. Technické charakteristiky a meracie metódy na pozemné zariadenia. Časť 5: Harmonizovaná norma vzťahujúca sa na základné požiadavky podľa článku 3.2 smernice 2014/53/EÚ.	STN EN 301 842-5 V2.1.1 87 1842
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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. 01/17

Obsahuje: EN 301 842-5 V2.1.1:2016

124072

ETSI EN 301 842-5 V2.1.1 (2016-09)



**VHF air-ground Digital Link (VDL) Mode 4 radio equipment;
Technical characteristics and methods of measurement
for ground-based equipment;
Part 5: Harmonised Standard covering the essential
requirements of article 3.2 of the Directive 2014/53/EU**

Reference

REN/ERM-TGAERO-33

Keywordsaeronautical, digital, harmonised standard, radio,
testing, VHF**ETSI**650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
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Contents

Intellectual Property Rights	5
Foreword.....	5
Modal verbs terminology.....	6
1 Scope	7
2 References	7
2.1 Normative references	7
2.2 Informative references.....	7
3 Definitions and abbreviations.....	8
3.1 Definitions.....	8
3.2 Abbreviations	9
4 Technical requirements specifications	10
4.1 Environmental profile.....	10
4.2 Conformance requirements	10
4.2.1 Receiver requirements	10
4.2.1.1 General: Reference Signal.....	10
4.2.1.2 Sensitivity	10
4.2.1.3 Adjacent Channel Rejection.....	10
4.2.1.4 Spurious response rejection of signals within the VHF aeronautical band	11
4.2.1.4.1 Definition.....	11
4.2.1.4.2 Limits	11
4.2.1.4.3 Conformance	11
4.2.1.5 Spurious response rejection of signals outside the VHF aeronautical band	11
4.2.1.5.1 Definition.....	11
4.2.1.5.2 Limits	11
4.2.1.5.3 Conformance	11
4.2.1.6 Co-channel interference	11
4.2.1.7 Receiver Conducted spurious emission.....	12
4.2.1.7.1 Definition.....	12
4.2.1.7.2 Limits	12
4.2.1.8 In-band Intermodulation.....	12
4.2.1.8.1 Definition.....	12
4.2.1.8.2 Limits	12
4.2.1.9 Receiver Cabinet radiation	12
4.2.1.9.1 Definition.....	12
4.2.1.9.2 Limits	12
4.2.2 Transmitter requirements	12
4.2.2.1 Manufacturer's declared output power	12
4.2.2.1.1 Definition.....	12
4.2.2.1.2 Limits	12
4.2.2.2 RF power rise time	13
4.2.2.2.1 Definition.....	13
4.2.2.2.2 Limits	13
4.2.2.3 RF power release time.....	13
4.2.2.3.1 Definition.....	13
4.2.2.3.2 Limits	13
4.2.2.4 Transmitter Conducted Spurious emissions	13
4.2.2.4.1 Definition.....	13
4.2.2.5 Adjacent channel power	13
4.2.2.5.1 Definition.....	13
4.2.2.5.2 Limits	14
4.2.2.6 Wide-band noise	14
4.2.2.6.1 Definition.....	14
4.2.2.6.2 Limits	14
4.2.2.7 Frequency Error	14

4.2.2.7.1	Definition.....	14
4.2.2.7.2	Limits	14
4.2.2.8	Load VSWR capability	14
4.2.2.8.1	Definition.....	14
4.2.2.8.2	Limits	14
4.2.2.9	Transmitter Cabinet radiation.....	15
4.2.2.9.1	Definition.....	15
4.2.2.9.2	Limits	15
4.2.3	Transceiver requirements.....	15
4.2.3.1	Receiver to transmitter turnaround time.....	15
4.2.3.1.1	Definition.....	15
4.2.3.1.2	Limits	15
4.2.3.2	Transmitter to receiver turnaround time.....	15
4.2.3.2.1	Definition.....	15
4.2.3.2.2	Limits	15
5	Testing for compliance with technical requirements.....	15
5.1	Environmental conditions for testing	15
5.2	Interpretation of the measurement results	16
Annex A (normative):	Relationship between the present document and the essential requirements of Directive 2014/53/EU	17
History		19

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Foreword

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

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.1] 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 [i.2].

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.

The present document provides the technical procedures and limits for compliance with article 3.2 of the Directive 2014/53/EU [i.2] for the ground equipment only.

The present document is part 5 of a multi-part deliverable covering the VHF air-ground Digital Link (VDL) Mode 4 radio equipment; Technical characteristics and methods of measurement for ground-based equipment, as identified below:

- Part 1: "EN for ground equipment";
- Part 2: "General description and data link layer";
- Part 3: "Additional broadcast aspects";
- Part 4: "Point-to-point functions";
- Part 5: "Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU".**

National transposition dates

Date of adoption of this EN:	7 September 2016
Date of latest announcement of this EN (doa):	31 December 2016
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 June 2017
Date of withdrawal of any conflicting National Standard (dow):	30 June 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.

1 Scope

The present document applies to Very High Frequency (VHF) Digital Link (VDL) Mode 4 ground-based radio transmitters and receivers for air-ground communications operating in the VHF band, using Gaussian-filtered Frequency Shift Keying (GFSK) Modulation with 25 kHz channel spacing and capable of tuning to any of the 25 kHz channels from 112,000 MHz to 136,975 MHz as defined in ICAO VHF Digital Link (VDL) Standards and Recommended Practices (SARPs) [i.5].

Manufacturers should note that in future the tuning range for the ground transceivers may also cover any 25 kHz channel from 108,000 MHz to 111,975 MHz.

The present document contains requirements to demonstrate 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*" [i.2].

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 [i.2] as well as essential requirements under the Single European Sky Interoperability Regulation 552/2004 [i.10] and related implementing rules and/or essential requirements under the EASA basic regulation No 216/2008 [i.3] as amended by Regulation No 1108/2009 [i.4] may apply to equipment within the scope of the present document.

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.

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

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

- [1] ETSI EN 301 842-1 (V1.4.1) (04-2015): "VHF air-ground Digital Link (VDL) Mode 4 radio equipment; Technical characteristics and methods of measurement for ground-based equipment; Part 1: EN for ground equipment".
- [2] ETSI EN 300 113-1 (V1.7.1) (11-2011): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land mobile service; Radio equipment intended for the transmission of data (and/or speech) using constant or non-constant envelope modulation and having an antenna connector; Part 1: Technical characteristics and methods of measurement".

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] 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.
- [i.2] 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.
- [i.3] Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC.
- [i.4] Regulation (EC) No 1108/2009 of the European Parliament and of the Council of 21 October 2009 amending Regulation (EC) No 216/2008 in the field of aerodromes, air traffic management and air navigation services and repealing Directive 2006/23/EC.
- [i.5] ICAO Annex 10 to the Convention on International Civil Aviation: "Aeronautical Telecommunications, Volume III: Communication Systems, Part I: Digital Data Communication Systems, Chapter 6", inc. Amendment 88-A (applicable from 14/11/2013).
- [i.6] ISO/IEC 7498-1 (1994): "Information technology - Open Systems Interconnection - Basic Reference Model: The Basic Model".
- [i.7] ISO/IEC 10731 (1994): "Information technology - Open Systems Interconnection - Basic Reference Model - Conventions for the definition of OSI services".
- [i.8] ETSI TR 100 028-1 (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1".
- [i.9] ETSI TR 100 028-2 (V1.4.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics Part 2".
- [i.10] EC Regulation No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (interoperability Regulation), OJ L 96, 31.03.2004, p. 26 as amended by Regulation (EC) No 1070/2009, OJ L 300, 14.11.2009, p. 34.

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