

STN	Systémy indukčných smyčiek určené na pomoc sluchovo postihnutým vo frekvenčnom rozsahu od 10 Hz do 9 kHz Harmonizovaná norma vzťahujúca sa na základné požiadavky článku 3.2 Smernice 2014/53/EU	STN EN 303 348 V1.1.2 87 3348
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**Induction loop systems
intended to assist the hearing impaired
in the frequency range 10 Hz to 9 kHz;
Harmonised Standard covering the essential requirements
of article 3.2 of Directive 2014/53/EU**

Reference

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Contents

Intellectual Property Rights	5
Foreword.....	5
Modal verbs terminology.....	5
Introduction	6
1 Scope	7
2 References	7
2.1 Normative references	7
2.2 Informative references.....	7
3 Definitions, symbols and abbreviations	8
3.1 Definitions	8
3.2 Symbols.....	10
3.3 Abbreviations	10
4 Technical requirements specifications	11
4.1 Environmental conditions.....	11
4.1.1 Environmental profile	11
4.2 General requirements	11
4.2.1 Presentation of induction loop amplifier equipment for testing purposes.....	11
4.2.2 Choice of model for testing	11
4.2.3 Controls	11
4.2.4 Amplifier shut-off facility.....	12
4.2.5 Declarations by the manufacturer	12
4.2.6 Auxiliary test equipment.....	12
5 Testing for compliance with technical requirements.....	12
5.1 Environmental conditions for testing	12
5.1.1 General requirements.....	12
5.1.2 Normal temperature and humidity	12
5.1.3 Test power source	12
5.1.3.1 General requirements	12
5.1.3.2 External test power source	13
5.1.3.3 Internal test power source	13
5.1.3.3.1 General	13
5.1.3.3.2 Mains voltage	13
5.1.3.3.3 Valve-regulated lead-acid battery power sources	13
5.1.3.3.4 Other power sources	13
5.2 General conditions.....	13
5.2.1 Normal test signals.....	13
5.2.1.1 Signal input for testing.....	14
5.2.2 Loop connections.....	14
5.2.2.1 General	14
5.2.2.2 Artificial loop.....	14
5.2.3 Measuring receiver	14
5.3 Induction loop amplifier	15
5.3.1 General.....	15
5.3.2 Induction loop amplifier definitions	15
5.3.2.1 General	15
5.3.2.2 Product Classes	15
5.3.3 Audio frequency in band and out of band emission limits.....	16
5.3.3.1 Definition	16
5.3.3.2 Methods of measurement	16
5.3.3.3 Limits	17
5.3.4 Spurious domain emission limits	17
5.3.4.1 Definition	17
5.3.4.2 Methods of measurement	17

5.3.4.3	Limits	17
5.4	Induction loop receiver.....	18
5.4.1	General.....	18
5.4.2	Headphone output.....	18
5.4.3	Induction loop receiver definitions	18
5.4.4	Methods of measurement.....	18
5.4.5	Limits.....	18
5.5	Interpretation of the measurement results	19
Annex A (informative):	Relationship between the present document and the essential requirements of Directive 2014/53/EU	20
Annex B (informative):	Technical overview	21
B.1	Induction loop amplifiers	21
B.1.1	General	21
B.1.2	Frequency response	21
B.1.3	Field strength.....	21
B.1.4	General performance criteria.....	21
B.2	Induction loop receivers and test equipment	21
B.2.1	General	21
B.2.2	Sensitivity.....	22
Annex C (normative):	Measurement.....	23
C.1	Standard test position to be used with internal loop equipment or equipment having a loop connector	23
Annex D (normative):	The relationship between loop current and H-Field strength.....	24
Annex E (informative):	Artificial loop.....	26
Annex F (normative):	Induction loop amplifier emission levels and spectrum mask measurements.....	28
Annex G (informative):	Determination and use of the measurement bandwidth.....	29
Annex H (informative):	Bibliography.....	30
Annex I (informative):	Change history	31
History		32

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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.8] 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.1].

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:	17 July 2017
Date of latest announcement of this EN (doa):	31 October 2017
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 April 2018
Date of withdrawal of any conflicting National Standard (dow):	30 April 2019

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).

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Introduction

Audio Frequency Induction Loop Systems (AFILS) have been on the market since the middle of the twentieth century, with the first recognizable patents appearing circa 1938. AFILS are primarily used to facilitate improved communication to people with impaired hearing and are an important tool in the reduction of discrimination against disabled people.

The present document represents the performance of equipment which is currently on the market, which has not previously been subjected to compliance to a "radio" directive.

AFILS are installed in places of worship, places of entertainment, places of education, ticket booths and service counters, etc., as well as in domestic situations, providing huge benefits to users with impaired hearing.

AFILS provide an audio frequency magnetic field that couples with a receiving coil (Telecoil) fitted in hearing aids, cochlear implants, loop listeners and testing devices. This magnetic field is generated in a wire loop that is fed by an audio frequency amplifier which is capable of driving current through the "induction loop" which, in turn, is fed from external signals such as those generated by microphones, audio-visual equipment and musical instruments.

AFILS operate below 9 kHz and have a very limited range (some few metres) and there is no known evidence of interference with radio equipment.

The market for AFILS is relatively small compared with technologies such as RFID, and is physically separated from most radio systems, so the opportunity for mutual interference problems is reduced compared to other users of the spectrum in this frequency range.

The present document has been developed in response to Directive 2014/53/EU [i.1], which is the first radio standard that has been produced for AFILS equipment and has been prepared to allow the assessment of audio frequency induction loop amplifiers and receivers for compliance with Directive 2014/53/EU [i.1].

1 Scope

The present document specifies technical characteristics and methods of measurements for audio frequency induction loop amplifiers and receivers operating from 10 Hz to 9 kHz used in audio frequency induction loop systems (AFILS).

NOTE: The object of an AFILS is to transmit an audio signal to people with hearing difficulties. The receiver in this case is normally a hearing aid with a built in telecoil.

These radio equipment types are capable of operating in the frequency band within the 10 Hz to 9 kHz range:

- either with an output connection(s) and dedicated loop(s) or with an internal loop(s);
- for audio frequency baseband transmission (un-modulated and without the use of a carrier).

The present document covers fixed induction loop amplifiers, mobile induction loop amplifiers and portable induction loop amplifiers.

The present document covers the essential requirements of article 3.2 of Directive 2014/53/EU [i.1] under the conditions identified in annex A.

2 References

2.1 Normative references

References are specific, identified by date of publication and/or edition number or version number. Only the cited version applies.

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

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| [1] | Void. |
| [2] | CEPT/ERC/Recommendation 74-01E (Siófok 98, Nice 99, Sesimbra 02, Hradec Kralove 05, Cardiff 11): "Unwanted Emissions in the Spurious Domain". |

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.

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| [i.1] | 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.2] | CEPT/ERC/REC 70-03: "Relating to the use of Short Range Devices (SRD)". |

- [i.3] CISPR 16-2-3: "Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements".
- [i.4] IEC 60118-4: "Electroacoustics - Hearing aids - Part 4: Induction loop systems for hearing aid purposes - Magnetic field strength".
- [i.5] IEC 62489-1 + Amd 1: "Electroacoustics - Audio-frequency induction loop systems for assisted hearing - Part 1: Methods of measuring and specifying the performance of system components".
- [i.6] IEC 61672-1: "Electroacoustics. Sound level meters. Specifications".
- [i.7] IEC 60268-10: "Sound system equipment. Methods for specifying and measuring the characteristics of peak programme level meters".
- [i.8] 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.9] ETSI TR 100 028 (all parts) (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [i.10] ETSI TR 100 028-2 (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2".

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