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Land Mobile Service; Radio equipment transmitting signals to initiate a specific response in the receiver; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU

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**Land Mobile Service;
Radio equipment transmitting signals to initiate
a specific response in the receiver;
Harmonised Standard 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 Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.7] 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.5].

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 C.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:	21 March 2016
Date of latest announcement of this EN (doa):	30 June 2016
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2016
Date of withdrawal of any conflicting National Standard (dow):	31 December 2017

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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1 Scope

The present document applies to constant envelope angle modulation systems for use in the land mobile service, using the available bandwidth, operating on radio frequencies between 30 MHz and 1 GHz, with channel separations of 12,5 kHz, 20 kHz and 25 kHz intended for transmission and/or reception of signals used to initiate a specific response in the receiver.

Table 1: Radiocommunications service frequency bands

Radiocommunications service frequency bands	
Transmit	30 MHz to 1 000 MHz
Receive	30 MHz to 1 000 MHz

The present document applies to non-speech and to the non-speech part of combined speech/non-speech analogue equipment. In the present document, non-speech radio equipment is defined as a radio equipment transmitting a signal to initiate a specific response in the receiver. The equipment shall comprise a transmitter and associated encoder and/or a receiver and associated decoder. The encoder and/or decoder may be a separate piece of equipment, in which case compliance to the present document covers the encoder and/or decoder in connection with the transmitter and/or receiver equipment.

In the present document different requirements are given for the different radio frequency bands, channel separations, environmental conditions and types of equipment, where appropriate.

The types of equipment covered by the present document are as follows:

- Base Station: equipment fitted with an antenna socket;
- Mobile Station: equipment fitted with an antenna socket;
- Handportable stations:
 - a) fitted with an antenna socket; or
 - b) without an external antenna socket (integral antenna equipment) but fitted with a permanent internal or a temporary internal 50 Ω Radio Frequency (RF) connector which allows access to the transmitter output and the receiver input.

Handportable equipment without an external or internal RF connector and without the possibility of having a temporary internal 50 Ω RF connector is not covered by the present document. Integral antenna equipment is covered by ETSI EN 300 341 [i.1] (see the corresponding scope).

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*" and that "...*radio equipment supports certain features ensuring access to emergency services*" [i.5].

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 Radio Equipment Directive [i.5] 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.

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

- [1] Recommendation ITU-T O.41 (1994): "Psophometer for use on telephone-type circuits".
- [2] ETSI TR 100 028 (V1.4.1) (12-2001) (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".
- [3] ETSI EN 300 086 (V2.1.2) (08-2016): "Land Mobile Service; Radio equipment with an internal or external RF connector intended primarily for analogue speech; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU".
- [4] IEC 60489-3 (1988): "Methods of measurement for radio equipment used in the mobile services. Part 3: Receivers for A3E or F3E emissions".
- [5] 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".

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] ETSI EN 300 341 (V1.4.1): "Land Mobile Service; Radio equipment using an integral antenna transmitting signals to initiate a specific response in the receiver; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU".
- [i.2] ETSI EN 300 793 (1998): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land mobile service; Presentation of equipment for type testing".
- [i.3] ETSI TR 102 273 (V1.2.1) (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement on Radiated Methods of Measurement (using test site) and evaluation of the corresponding measurement uncertainties".
- [i.4] ANSI C63.5 (2006): "American National Standard for Calibration of Antennas Used for Radiated Emission Measurements in Electromagnetic Interference (EMI) Control-Calibration of Antennas (9 kHz to 40 GHz)".
- [i.5] 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.6] CEPT/ERC/REC 74-01E: "Unwanted emissions in the spurious domain" (Siófok 1998, Nice 1999, Sesimbra 2002; Hradec Kralove 2005).
- [i.7] 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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