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STN	**Systémy mobilnej komunikácie na palube lietadla (MCOBA)** **Harmonizovaná norma pre prístup k rádiovému spektru**	**STN** **EN 302 480 V2.2.1** 87 2480

Mobile Communication On Board Aircraft (MCOBA) systems; Harmonised Standard for access to radio spectrum

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. 05/22

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Mobile Communication On Board Aircraft (MCOBA) systems; Harmonised Standard for access to radio spectrum

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Contents

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Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Mobile Standards Group (MSG).

For non EU countries the present document may be used for regulatory (Type Approval) purposes.

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.10] 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:	20 September 2021
Date of latest announcement of this EN (doa):	31 December 2021
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 June 2022
Date of withdrawal of any conflicting National Standard (dow):	30 June 2023

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

The present document is part of a set of standards developed by ETSI that are designed to cover radio equipment within the scope of the Radio Equipment Directive 2014/53/EU [i.1]. The present document is produced following the guidance in ETSI EG 203 336 [i.2] as applicable.

Please refer to annex C for the structure of this system and further technical explanations.

1 Scope

The present document specifies technical characteristics and methods of measurements for the following equipment types (which are parts of a Mobile Communication On Board Aircraft system):

1) The Onboard Base Transceiver Station (OBTS) supporting GSM and/or UMTS, and/or LTE communication protocols including specific functions for restricting the transmit power of the MSs or UEs, associated with the OBTS.

2) The Network Control Unit (NCU) preventing direct connection of the onboard mobile terminals with mobile networks on the ground by raising the noise floor in the cabin.

The OBTSs are capable of operating in all or any part of the frequency bands given in table 1-1.

Table 1-1: Base Station operating bands

Band designation	Direction of transmission	Base Station operating bands
UTRA I	BS Transmit	2 110 MHz to 2 170 MHz (UMTS)
	BS Receive	1 920 MHz to 1 980 MHz (UMTS)
E-UTRA 3	BS Transmit	1 805 MHz to 1 880 MHz (LTE)
	BS Receive	1 710 MHz to 1 785 MHz (LTE)
DCS 1800	BS Transmit	1 805 MHz to 1 880 MHz (GSM)
	BS Receive	1 710 MHz to 1 785 MHz (GSM)

The NCU is capable of operating in all of the frequency bands given in table 1-2.

Table 1-2: NCU operating bands

NCU operating bands	Comment
460 MHz to 470 MHz (see note)	
791 MHz to 821 MHz (see note)	LTE
925 MHz to 960 MHz	GSM
1 805 MHz to 1 880 MHz (see note)	GSM/LTE
2 110 MHz to 2 170 MHz	UMTS
2 570 MHz to 2 620 MHz (see note)	LTE
2 620 MHz to 2 690 MHz (see note)	LTE
NOTE: Implementation of this operating band in a NCU is not mandatory according to the EC Decision [i.4].	

The present document applies only to radio equipment using a dedicated transmitting antenna that is designed as an indispensable part of the system for usage on board an aircraft.

It applies to equipment for continuous and discontinuous transmission of data and digital speech.

Within the European Union, the system covered by the present document operates in accordance with the operational requirements as outlined in the Commission Decision 2016/2317/EU [i.4] based on the former Decision 2013/654 [i.3]. In relation the NCU, some frequency bands are now optional while they were mandatory before. Due to this difference the present document had to be reviewed.

The present document contains requirements to ensure that such Radio equipment both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference.

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.1] may apply to equipment within the scope of the present document.

The present document does not cover equipment compliance with relevant civil aviation regulations. In this respect, a MCOBA system, for its installation and operation on board an aircraft is subject to additional national or international civil aviation airworthiness certification requirements, for example to EUROCAE ED-14G [i.7].

NOTE: The relationship between the present document and essential requirements of article 3.2 of Directive 2014/53/EU [i.1] is given in annex A.

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 https://docbox.etsi.org/Reference/.

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

[1] ETSI EN 301 908-14 (V13.1.1) (09-2019): "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 14: Evolved Universal Terrestrial Radio Access (E-UTRA) Base Stations (BS)".

[2] ETSI TS 145 005 (V14.7.0) (04-2020): "Digital cellular telecommunications system (Phase 2+) (GSM); GSM/EDGE Radio transmission and reception (3GPP TS 45.005 version 14.7.0 Release 14)".

[3] ETSI TS 145 010 (V14.5.0) (04-2020): "Digital cellular telecommunications system (Phase 2+) (GSM); GSM/EDGE Radio subsystem synchronization (3GPP TS 45.010 version 14.5.0 Release 14)".

[4] ETSI TS 145 008 (V14.10.0) (04-2020): "Digital cellular telecommunications system (Phase 2+) (GSM); GSM/EDGE Radio subsystem link control (3GPP TS 45.008 version 14.10.0 Release 14)".

[5] ETSI TS 136 141 (V14.13.0) (04-2021): "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) conformance testing (3GPP TS 36.141 version 14.13.0 Release 14)".

[6] ETSI TS 151 021 (V14.8.0) (04-2020): "Digital cellular telecommunications system (Phase 2+) (GSM); Base Station System (BSS) equipment specification; Radio aspects (3GPP TS 51.021 version 14.8.0 Release 14)".

[7] ETSI EN 301 908-3 (V13.1.1) (09-2019): "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 3: CDMA Direct Spread (UTRA FDD) Base Stations (BS)".

[8] ETSI EN 301 908-18 (V13.1.1) (09-2019): "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 18: E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)".

[9] ETSI TS 125 141 (V14.3.0) (10-2017): "Universal Mobile Telecommunications System (UMTS); Base Station (BS) conformance testing (FDD) (3GPP TS 25.141 version 14.3.0 Release 14)".

[10] ETSI TS 125 331 (V14.5.0) (01-2018): "Universal Mobile Telecommunications System (UMTS); Radio Resource Control (RRC); Protocol specification (3GPP TS 25.331 version 14.5.0 Release 14)".

[11] ETSI TS 136 101 (V14.17.0) (02-2021): "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception (3GPP TS 36.101 version 14.17.0 Release 14)".

[12] ETSI TS 136 331 (V14.16.0) (01-2021): "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (3GPP TS 36.331 version 14.16.0 Release 14)".

[13] ETSI TS 125 133 (V14.2.0) (04-2018): "Universal Mobile Telecommunications System (UMTS); Requirements for support of radio resource management (FDD) (3GPP TS 25.133 version 14.2.0 Release 14)".

2.2 Informative 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.

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

[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 (Radio Equipment Directive).

[i.2] ETSI EG 203 336 (V1.2.1) (05-2020): "Guide for the selection of technical parameters for the production of Harmonised Standards covering article 3.1(b) and article 3.2 of Directive 2014/53/EU".

[i.3] Commission Decision 2013/654/EU amending Decision 2008/294/EC to include additional access technologies and frequency bands for mobile communications services on aircraft (MCA services), 12.11.2013.

[i.4] Commission Decision 2016/2317/EU amending Decision 2008/294/EC and Implementing Decision 2013/654/EU, in order to simplify the operation of mobile communications on board aircraft (MCA services) in the Union, 16.12.2016.

[i.5] CEPT/ERC/REC 74-01 (01-2011) (equivalent to Recommendation ITU-R SM.329-12): "Unwanted emissions in the spurious domain".

[i.6] Void.

[i.7] EUROCAE ED-14G (05-2011): "Environmental Conditions and Test Procedures for Airborne Equipment".

[i.8] 3GPP2 C.S0011-C (V2.0): "Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Mobile Stations".

[i.9] ETSI TS 125 104 (V14.2.0) (07-2017): "Universal Mobile Telecommunications System (UMTS); Base Station (BS) radio transmission and reception (FDD) (3GPP TS 25.104 version 14.2.0 Release 14)".

[i.10] 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.11] ETSI EN 301 908-1 (V13.1.1) (11-2019): "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements".