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

(ETSI EN 302 480 V2.2.1 (2021-09))

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Diese Europäische Norm EN 302 480 V2.2.1:2021 hat sowohl den Status einer nationalen elektrotechnischen Norm gemäß ETG 1992 als auch den einer nationalen Norm gemäß NormG 2016. Bei ihrer Anwendung ist dieses Nationale Vorwort zu berücksichtigen.

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ÖVE/ÖNORM EN 302 480 V2.1.2:2017-04-01.

ETSI EN 302 480 V2.2.1 (2021-09)

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

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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).

"**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 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].