

# ETSI EN 302 608 V2.1.1 (2017-11)



**Short Range Devices (SRD);  
Radio equipment for Eurobalise railway systems;  
Harmonised Standard covering the essential requirements  
of article 3.2 of 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.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:	27 November 2017
Date of latest announcement of this EN (doa):	28 February 2018
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 August 2018
Date of withdrawal of any conflicting National Standard (dow):	31 August 2019

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## Modal verbs terminology

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## Introduction

The present document is part of a set of standards developed by ETSI and is designed to fit in a modular structure to cover all radio and telecommunications terminal equipment within the scope of the Directive 2014/53/EU [i.1].

The Eurobalise transmission system is defined by the specifications [1] and [2] of the UNISIG consortium.

# 1 Scope

The present document specifies technical characteristics and methods of measurements for radio transmitters and receivers used in the Eurobalise transmission system. The system is used in railway environment for the communication between tracks and trains.

It applies to the following equipment units:

- a) the On-Board Equipment (OBE) Tele-powering the Eurobalise; and
- b) the Eurobalise that is always installed in between the rails.

The OBE comprises a transmitter (normally un-modulated) and a receiver fitted with an integral or dedicated antenna.

The Eurobalise FSK-modulated transmitter is Tele-powered by the OBE and has an integral antenna.

The Eurobalise transmission system operates in frequency bands listed in table 1 in accordance with the EC Decision 2013/752/EU [i.5] and ERC Recommendation 70-03 [i.2], annex 4.

These radio equipment types are capable of operating at the following frequencies as given in table 1.

**Table 1: Radio communications frequencies**

	<b>Radio communications frequencies</b> <b>Note</b>
OBE receive frequency band	2,5 MHz to 6 MHz (4,234 MHz centre frequency)
Eurobalise transmit frequency band	4,234 MHz $\pm$ 1 MHz

NOTE: EC decision for SRDs [i.5] and ERC Recommendation 70-03 [i.2] are providing the usage conditions for Eurobalise transmissions in frequency range 984 - 7 484 kHz (4,234 MHz centre frequency). The 27 MHz band is only used in the OBE for telepowering the Eurobalise, which is not in the scope of the present document.

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.

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

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 necessary for the application of the present document.

[1] UNISIG SUBSET-036-3.1.0: "FFFIS for Eurobalise", December 2015.

NOTE: Available at <http://www.era.europa.eu/Document-Register/Documents/SUBSET-036%20v310.pdf>.

[2] UNISIG SUBSET-085-3.0.0: "Test Specification for Eurobalise FFFIS", February 2012.

NOTE: Available at <http://www.era.europa.eu/Document-Register/Documents/Set-2-Index043-SUBSET-085%20v300.pdf>.