

UK Interface Requirement 2089

Global Navigation Satellite Systems Repeater

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Section 1

References

- 1.1 EN 302 645 V1.1.1 “Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices; Global Navigation Satellite Systems (GNSS) Repeaters; Harmonized EN covering the essential requirements of article 3.2 of the Radio Equipment Directive (Directive 2014/53/EU)”.

Section 2

Foreword

- 2.1 The Radio Equipment Directive (Directive 2014/53/EU) was implemented in the United Kingdom (UK) by the Radio Equipment Regulations 2017. In accordance with Articles 8 and 7 of Directive 2014/53/EU, this UK Interface Requirement contains the requirements for the licensing and use of GNSS Repeater equipment in the specified frequency bands.
- 2.2 Nothing in this UK Radio Interface Requirement shall preclude the need for equipment to comply with Directive 2014/53/EU.
- 2.3 It is required by the Wireless Telegraphy Act 2006 that no radio equipment is installed or used in the UK except under the authority of a licence granted by or otherwise exempted by regulations made by Ofcom. It is a condition of such a licence or exemption regulations as appropriate that, in order to be installed, or used in the UK, the equipment must meet the minimum requirements specified in this UK Interface Requirement for the stated equipment types and for the stated frequency bands. Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Directive 2014/53/EU.
- 2.4 The requirements given in the main body of this UK Radio Interface Requirement will apply to the licensing of all GNSS repeaters
- 2.5 This UK Radio Interface Requirement will be revised as necessary, for example to follow:
 - i) current technology developments for reasons related to the effective and appropriate use of the spectrum in particular maximising spectrum utilisation; and
 - ii) changes to the available spectrum allocated for RNSS systems such as GPS and Galileo.
- 2.6 All UK Radio Interface Requirements notified under Directive 2015/1535/EU will be published and will be made available free of charge from the Ofcom web-site at <http://www.ofcom.org.uk>
- 2.7 Further information on this UK Radio Interface Requirement can be obtained from the technical enquiry contact given at the back of this document.

Section 3

Minimum requirements for operation within the UK

- 3.1 The minimum requirements in this document are made for reasons related to the effective and appropriate use of the radio spectrum, in particular maximising spectrum utilisation.
- 3.2 This UK Radio Interface Requirement gives a high level description of how GNSS repeaters may be used in spectrum in the UK and used for Radionavigation Satellite Services (RNSS). It does not prescribe technical interpretation of the 'essential requirements' of Directive 2014/53/EU.
- 3.3 This UK Radio Interface Requirement therefore stipulates the necessary equipment parameters for the licensing of GNSS (inc. GPS repeaters) in the UK. Tables 3.1 contain the relevant equipment parameters. These taken together with the 'essential requirements' detailed in Article 3.2 of Directive 2014/53/EU constitute the minimum requirements for GNSS repeater within the UK. Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Directive 2014/53/EU.
- 3.4 The technical parameters specified in the UK Radio Interface Requirement are applied to achieve the desired level of compatibility within the RNSS and with other radiocommunications services, whilst promoting enterprise, innovation and competition.
- 3.5 This UK Radio Interface requirement provides the necessary technical information which facilitates access to the RNSS spectrum by making clear the assumptions that are made in planning the use of the RNSS spectrum in the UK. It is not the intention of this UK Radio Interface Requirement to duplicate or impose any additional 'essential requirements' of the Directive 2014/53/EU on products. Any specified parameters within this document are for the purpose of identifying product options and not as a national de facto product requirement.

Table 3.1: Minimum requirements for GNSS repeaters operating in bands 1164-1215MHz, 1215-1300MHz and 1559-1610MHz

Mandatory Elements (1-9)		
1	Radiocommunication Service	Radionavigation Satellite Service
2	Application	On-Channel Repeater for GNSS signals
3	Frequency band (or bands)	All or part of 1164-1215MHz, 1215-1300MHz or 1559-1610MHz
4	Channelling	N/A
5	Modulation/Occupied Bandwidth	Direct Sequence Spread Spectrum (Code Division Multiple Access - CDMA)
6	Direction/separation	N/A
7	Maximum transmit power	-20dBm*
8	Channel access and occupation rules	N/A
9	Authorisation Regime	Licensed
10	Additional essential requirements According to Art 3.3 of R&TTE	
11	Frequency planning assumptions	N/A
Informative Elements (10-13)		
12	Planned Changes	
13	References	EN 302 645
14	Notification Number	2012/xxx/UK
15	Remarks	Any received GNSS signals amplified and re-transmitted are limited in their radiated power by equipment conforming to the EN 302 645 section 4.2.2. GNSS repeater installations should take account of the recommendations given in ECC Recommendation (10)02.

* = The maximum power output of the amplifier

Section 4

Additional performance parameters

(Informative)

For GNSS repeater systems that operate in accordance with Table 3.1.

Type	It is assumed for Spectrum Planning purposes that equipment will operate in accordance with the following
ECC Recommendation	ECC/REC/(10)02 "A framework for authorisation regime of GNSS repeaters" http://www.erodocdb.dk/Docs/doc98/official/pdf/REC1002.PDF

Definitions

GNSS - Global Navigation Satellite System

GPS - Global Positioning System

Section 5

Contact details

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Section 6

Document history

Version	Date	Changes
1	March 2012	Initial IR
1.1	January 2018	Replaced R&TTE Directive 1999/5/EC and Directive 98/34/EC with Radio Equipment Directive 2014/53/EU and Directive (EU) 2015/1535 respectively. Minor editorials