



# IR 2101 - UK Interface Requirement 2101

**Backhaul for Emergency Services Gateway  
equipment in the 800 MHz and 1800 MHz bands**

**Publication date:** 10 January 2017  
**Date amended:** January 2018

# Contents

Section		Page
1	References	3
2	Foreword	4
3	Minimum requirements for operation within the UK	5
4	Additional performance parameters	8
5	Contact details	9
6	Document history	10

## Section 1

# References

- 1.1 Commission Decision 2010/267/EU of 6 May 2010 on harmonised technical conditions of use in the 790-862 MHz frequency band for terrestrial systems capable of providing electronic communications services in the European Union.
- 1.2 CEPT Report 30: The identification of common and minimal (least restrictive) technical conditions for 790 - 862 MHz for the digital dividend in the European Union
- 1.3 CEPT Report 31: Technical considerations regarding harmonisation options for the digital dividend in the European Union - Frequency (channelling) arrangements for the 790-862 MHz band
- 1.4 CEPT Report 40: Report from CEPT to European Commission in response to Task 2 of the Mandate to CEPT on the 900/1800 MHz bands - Compatibility study for LTE and WiMAX operating within the bands 880-915 MHz / 925-960 MHz and 1710-1785 MHz / 1805-1880 MHz (900/1800 MHz bands)
- 1.5 ETSI EN 301 908: IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the Radio Equipment Directive (Directive 2014/53/EU).
- 1.6 ETSI TS 136 101: LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception
- 1.7 ETSI TS 136 104: LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception

## 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 Backhaul for Emergency Services Gateway equipment<sup>1</sup> 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 Backhaul for Emergency Services Gateway equipment in the 800 MHz and 1800 MHz bands.
- 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 the Backhaul for Emergency Services Gateway equipment in the 800 MHz and 1800 MHz bands.
- 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.

---

<sup>1</sup> "Emergency Services Gateway equipment" means temporary occasional use base stations which are established for use in connection with user stations used by the emergency services

## 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 the spectrum in the UK is used for Backhaul for Emergency Services Gateway equipment in the 800 MHz and 1800 MHz bands. 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 authorisation of Backhaul for Emergency Services Gateway equipment in the 800 MHz and 1800 MHz bands in the UK. Tables 3.1 and 3.2 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 Backhaul for Emergency Services Gateway equipment in the 800 MHz and 1800 MHz bands 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 spectrum for Backhaul for Emergency Services Gateway equipment in the 800 MHz and 1800 MHz bands 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 800 MHz and 1800 MHz spectrum by making clear the assumptions that are made in planning the use of the spectrum for Backhaul for Emergency Services Gateway equipment in the 800 MHz and 1800 MHz bands 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 the use of: Backhaul for Emergency Services Gateway equipment operating in the 791-821 MHz or 1805 – 1880 bands								
Mandatory (1-10)								
1	Frequency band(s)	791.0 to 821.0 MHz 1805.1 – 1880.0 MHz						
2	Radiocommunication Service	Mobile service or Fixed service						
3	Application	Backhaul for Emergency Services Gateway equipment						
4	Channelling	Not specified						
5	Modulation / Occupied bandwidth	Not specified						
6	Direction / Separation	Transmissions from a base station to Emergency Services Gateway equipment  <table border="1"> <thead> <tr> <th>Frequency band (MHz)</th> <th>Separation (MHz)</th> </tr> </thead> <tbody> <tr> <td>791.0 to 821.0</td> <td>41</td> </tr> <tr> <td>1805.1 to 1880.0</td> <td>95</td> </tr> </tbody> </table>	Frequency band (MHz)	Separation (MHz)	791.0 to 821.0	41	1805.1 to 1880.0	95
Frequency band (MHz)	Separation (MHz)							
791.0 to 821.0	41							
1805.1 to 1880.0	95							
7	Maximum Transmit Power	61dBm/(5 MHz) EIRP						
8	Channel access and occupation rules	Not specified						
9	Authorisation regime	WT Act licence required						
10	Additional essential requirements	None						
Informative (11-13)								
11	Frequency planning assumptions	Commission Decision 2010/267/EU CEPT Report 30 CEPT Report 31 CEPT Report 40 ETSI TS 136 104						
12	Planned changes	-						
13	Reference	EN 301 908						
14	Notification	-						
15	Remarks	-						

**Table 3.2: Minimum requirements for the use of: Backhaul for Emergency Services Gateway equipment operating in the 832-862 MHz or 1710 – 1785 bands**

Mandatory (1-10)								
1	Frequency band(s)	832.0 to 862.0 MHz 1710.1 to 1785.0 MHz						
2	Radiocommunication Service	Mobile service or Fixed service						
3	Application	Backhaul for Emergency Services Gateway equipment						
4	Channelling	Not specified						
5	Modulation / Occupied bandwidth	Not specified						
6	Direction / Separation	<p>Transmissions from Emergency Services Gateway equipment to a base station.</p> <p><u>Uplink/downlink separation:</u></p> <table border="1"> <thead> <tr> <th>Frequency band (MHz)</th> <th>Separation (MHz)</th> </tr> </thead> <tbody> <tr> <td>832.0 to 862.0</td> <td>41</td> </tr> <tr> <td>1710.1 to 1785.0</td> <td>95</td> </tr> </tbody> </table>	Frequency band (MHz)	Separation (MHz)	832.0 to 862.0	41	1710.1 to 1785.0	95
Frequency band (MHz)	Separation (MHz)							
832.0 to 862.0	41							
1710.1 to 1785.0	95							
7	Maximum Transmit Power	31dBm EIRP						
8	Channel access and occupation rules	Not specified						
9	Authorisation regime	Network user equipment meeting the minimum requirements outlined in this Interface Requirement is exempt from licensing provided that it meets the requirements of the relevant exemption regulations						
10	Additional essential requirements	None						
Informative (11-13)								
11	Frequency planning assumptions	Commission Decision 2010/267/EU CEPT Report 30 CEPT Report 31 CEPT Report 40 ETSI TS 136 101						
12	Planned changes	-						
13	Reference	EN 301 908						
14	Notification	-						
15	Remarks	-						

**Section 4**

# Additional performance parameters

**(informative)**

None specified



## Section 5

# Contact details

Ofcom Spectrum Licensing  
PO Box 1285  
Warrington. WA1 9GL

Tel: 020 7981 3131

Email: [Spectrum.Licensing@ofcom.org.uk](mailto:Spectrum.Licensing@ofcom.org.uk)

Website: <http://www.ofcom.org.uk/>

## Section 6

# Document history

Version	Date	Changes
1.0	10 January 2017	Published
	January 2018	Replaced R&TTE Directive 1999/5/EC and Directive 98/34/EC with Radio Equipment Directive and Directive (EU) 2015/1535 respectively. Minor editorials