

IR 2072 - UK Interface Requirement 2072

**Terrestrial systems capable of providing electronic communications
services in the band 2500 to 2690 MHz**

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Section 1

References

- 1.1 CEPT Report 19: Report from CEPT to the European Commission in response to the Mandate to develop least restrictive technical conditions for frequency bands addressed in the context of WAPECS
- 1.2 Decision 2008/477/EC: Commission Decision of 13 June 2008 on the harmonisation of the 2 500 - 2 690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community
- 1.3 ECC Report 131: Derivation of a block edge mask (BEM) for terminal stations in the 2.6 GHz frequency band (2500-2690 MHz)
- 1.4 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)
- 1.5 ETSI EN 302 544: Broadband Data Transmission Systems operating in the 2 500 MHz to 2 690 MHz frequency band; 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 terrestrial systems capable of providing electronic communications services 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 terrestrial systems capable of providing electronic communications services in the band 2500 to 2690 MHz.
- 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 terrestrial systems capable of providing electronic communications services in the band 2500 to 2690 MHz.
- 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 the spectrum in the UK is used for terrestrial systems capable of providing electronic communications services in the band 2500 to 2690 MHz. 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 terrestrial systems capable of providing electronic communications services in the band 2500 to 2690 MHz in the UK. Tables 3.1(a and b), 3.2, 3.3(a and b), and 3.4 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 terrestrial systems capable of providing electronic communications services in the band 2500 to 2690 MHz 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 terrestrial systems capable of providing electronic communications services in the band 2500 to 2690 MHz 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 2500 to 2690 MHz spectrum by making clear the assumptions that are made in planning the use of the spectrum for terrestrial systems capable of providing electronic communications services in the band 2500 to 2690 MHz 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 3.1a: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2500 to 2570 MHz band

| Mandatory (1-10) | | |
|---------------------|--|--|
| 1 | Frequency bands | 2500 to 2570 MHz |
| 2 | Radiocommunication Service | Mobile service or Fixed service |
| 3 | Application | TRA-ECS (Terrestrial radio applications capable of providing electronic communications services) |
| 4 | Channelling | Not specified |
| 5 | Modulation / Occupied bandwidth | Not specified |
| 6 | Direction / Separation | Terminal station transmit Repeater transmit/receive Uplink/downlink separation: 120 MHz |
| 7 | Maximum transmit power / Power Density | 23dBm Total Radiated Power (TRP) |
| 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 WT Act licence required for repeaters |
| 10 | Additional essential requirements | None |
| Informative (11-13) | | |
| 11 | Frequency planning assumptions | Commission Decision 2008/477/EC CEPT Report 19 ECC Report 131 |
| 12 | Planned changes | - |
| 13 | Reference | EN 301 908 |
| 14 | Notification Number | 2012/600/UK |
| 15 | Remarks | The TRP is defined as the integral of the power transmitted in different directions over the entire radiation sphere. |

Table 3.1b: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2500 to 2570 MHz band

| Mandatory (1-10) | | |
|---------------------|--|---|
| 1 | Frequency bands | 2500 to 2570 MHz |
| 2 | Radiocommunication Service | Mobile service or Fixed service |
| 3 | Application | TRA-ECS (Terrestrial radio applications capable of providing electronic communications services) |
| 4 | Channelling | Not specified |
| 5 | Modulation / Occupied bandwidth | Not specified |
| 6 | Direction / Separation | Terminal station transmit Repeater transmit/receive Uplink/downlink separation: 120 MHz |
| 7 | Maximum transmit power / Power Density | Mobile or nomadic terminal stations or repeaters: 31dBm/(5 MHz) Total Radiated Power (TRP) Fixed or installed terminal stations or repeaters: 35dBm/(5 MHz) EIRP |
| 8 | Channel access and occupation rules | Not specified |
| 9 | Authorisation regime | WT Act licence required for terminals not meeting the Maximum Transmit Power / Power Density limits in Table 3.1a. WT Act licence required for repeaters. |
| 10 | Additional essential requirements | None |
| Informative (11-13) | | |
| 11 | Frequency planning assumptions | Commission Decision 2008/477/EC CEPT Report 19 ECC Report 131 |
| 12 | Planned changes | - |
| 13 | Reference | EN 301 908 |
| 14 | Notification Number | 2012/600/UK |
| 15 | Remarks | The TRP is defined as the integral of the power transmitted in different directions over the entire radiation sphere. |

Table 3.2: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2620 to 2690 MHz band

| Mandatory (1-10) | | |
|---------------------|--|---|
| 1 | Frequency band(s) | 2620 to 2690 MHz |
| 2 | Radiocommunication Service | Mobile service or fixed service |
| 3 | Application | TRA-ECS (Terrestrial radio applications capable of providing electronic communications services) |
| 4 | Channelling | Not specified |
| 5 | Modulation / Occupied bandwidth | Not specified |
| 6 | Direction / Separation | Base station transmit Repeater transmit/receive Uplink/downlink separation: 120 MHz |
| 7 | Maximum Transmit Power / Power Density | 61dBm/(5 MHz) EIRP |
| 8 | Channel access and occupation rules | Not specified |
| 9 | Authorisation regime | WT Act licence required for base stations and repeaters |
| 10 | Additional essential requirements | None |
| Informative (11-13) | | |
| 11 | Frequency planning assumptions | Commission Decision 2008/477/EC CEPT Report 19 |
| 12 | Planned changes | - |
| 13 | Reference | EN 301 908 |
| 14 | Notification | 2012/600/UK |
| 15 | Remarks | - |

Table 3.3a: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2570 to 2620 MHz band (terminal stations and repeaters)

| Mandatory (1-10) | | |
|---------------------|--|--|
| 1 | Frequency band(s) | 2570 to 2620 MHz |
| 2 | Radiocommunication Service | Mobile service or Fixed service |
| 3 | Application | TRA-ECS (Terrestrial radio applications capable of providing electronic communications services) |
| 4 | Channelling | Not specified |
| 5 | Modulation / Occupied bandwidth | Not specified |
| 6 | Direction / Separation | Terminal station transmit Repeater transmit/receive Uplink/downlink separation: Time division duplex (TDD) |
| 7 | Maximum Transmit Power / Power Density | 26dBm Total Radiated Power (TRP) |
| 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 WT Act licence required for repeaters |
| 10 | Additional essential requirements | None |
| Informative (11-13) | | |
| 11 | Frequency planning assumptions | Commission Decision 2008/477/EC CEPT Report 19 ECC Report 131 |
| 12 | Planned changes | - |
| 13 | Reference | EN 301 908 EN 302 544 |
| 14 | Notification | 2012/600/UK |
| 15 | Remarks | The TRP is defined as the integral of the power transmitted in different directions over the entire radiation sphere. |

Table 3.3b: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2570 to 2620 MHz band (terminal stations and repeaters)

| Mandatory (1-10) | | |
|---------------------|--|---|
| 1 | Frequency band(s) | 2570 to 2620 MHz |
| 2 | Radiocommunication Service | Mobile service or Fixed service |
| 3 | Application | TRA-ECS (Terrestrial radio applications capable of providing electronic communications services) |
| 4 | Channelling | Not specified |
| 5 | Modulation / Occupied bandwidth | Not specified |
| 6 | Direction / Separation | Terminal station transmit Repeater transmit/receive Uplink/downlink separation: Time division duplex (TDD) |
| 7 | Maximum Transmit Power / Power Density | Mobile or nomadic terminal stations or repeaters: 31dBm/(5 MHz) Total Radiated Power (TRP) Fixed or installed terminal stations or repeaters: 35dBm/(5 MHz) EIRP |
| 8 | Channel access and occupation rules | Not specified |
| 9 | Authorisation regime | WT Act licence required for terminals not meeting the Maximum Transmit Power / Power Density limits in Table 3.3a WT Act licence required for repeaters. |
| 10 | Additional essential requirements | None |
| Informative (11-13) | | |
| 11 | Frequency planning assumptions | Commission Decision 2008/477/EC CEPT Report 19 ECC Report 131 |
| 12 | Planned changes | - |
| 13 | Reference | EN 301 908 EN 302 544 |
| 14 | Notification | 2012/600/UK |
| 15 | Remarks | The TRP is defined as the integral of the power transmitted in different directions over the entire radiation sphere. |

Table 3.4: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2570 to 2620 MHz band (base stations and repeaters)

| Mandatory (1-10) | | |
|---------------------|--|---|
| 1 | Frequency band(s) | 2570-2620 MHz |
| 2 | Radiocommunication Service | Mobile service or Fixed service |
| 3 | Application | TRA-ECS (Terrestrial radio applications capable of providing electronic communications services) |
| 4 | Channelling | Not specified |
| 5 | Modulation / Occupied bandwidth | Not specified |
| 6 | Direction / Separation | Base station transmit Repeater transmit/receive Uplink/downlink separation: Time division duplex (TDD) |
| 7 | Maximum Transmit Power / Power Density | Unrestricted spectrum blocks: 61dBm/(5 MHz) EIRP Restricted spectrum blocks: 25dBm/(5 MHz) EIRP Restricted spectrum blocks will be specified in the authorisation |
| 8 | Channel access and occupation rules | Not specified |
| 9 | Authorisation regime | WT Act licence required for base stations and repeaters |
| 10 | Additional essential requirements | None |
| Informative (11-13) | | |
| 11 | Frequency planning assumptions | Commission Decision 2008/477/EC CEPT Report 19 |
| 12 | Planned changes | - |
| 13 | Reference | EN 301 908 EN 302 544 |
| 14 | Notification | 2012/600/UK |
| 15 | Remarks | - |

Section 4

Additional performance parameters

(informative)

None specified

Section 5

Contact details

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Section 6

Document history

| Version | Date | Changes |
|---------|--------------|---|
| 1.0 | Feb 2008 | Draft Published |
| 1.1 | July 2008 | Final Version published |
| 2.0 | March 2012 | Draft revision published |
| 2.1 | October 2012 | Draft revision published |
| 3.0 | March 2013 | Final Version published |
| 3.1 | 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 |
| | | |