



UK Radio Interface Requirement 2038 Programme Making and Special Events

(Version 1.1)

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References

- EN 300 422 European Norm - Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and test methods for wireless microphones in the 25 MHz to 3 GHz frequency range.
- ETS 300 086 ETSI Telecommunication Standard – Radio Equipment and Systems (RES); Land mobile group; Technical characteristics and test conditions for radio equipment with an internal or external RF connector intended primarily for analogue speech
- ETS 300 113 ETSI Telecommunication Standard – Radio Equipment and Systems (RES); Land mobile group; Technical characteristics and test conditions for radio equipment intended for the transmission of data (and speech) and having an antenna connector
- EN 300 454 Electromagnetic compatibility and Radio spectrum matters (ERM); Wide band audio links Technical characteristics and test methods.
- EN 301 840 (Draft) Electromagnetic compatibility and Radio Spectrum Matters (ERM); Digital wireless microphones operating in the range 25 MHz to 3 GHz

Note: These references are included for information purposes only. Compliance with these referenced standards is not mandatory.

1. Foreword

- 1.1 The Radio Equipment and Telecommunications Terminal Equipment Directive 99/5/EC (R&TTE Directive) was implemented in the United Kingdom (UK) on the 8 April 2000 by The Radio Equipment and Telecommunications Terminal Equipment Regulations 2000, Statutory Instrument 2000 No. 730. In accordance with Articles 4.1 and 7.2 of Directive 1999/5/EC, this UK Radio Interface Requirement contains the requirements for the licensing and use of radio equipment for Programme Making and Special Events in the specified frequency bands.
- 1.2 Nothing in this UK Radio Interface Requirement shall preclude the need for equipment to comply with Directive 1999/5/EC.
- 1.3 It is required by the Wireless Telegraphy Act 1949 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 the Secretary of State. It is a condition of such a licence or exemption regulations as appropriate that the equipment must meet the minimum requirements specified in this UK Radio Interface Requirement for the stated equipment types and for the stated frequency bands.
- 1.4 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 Programme Making and Special Events.
- 1.6 The RA has publicly consulted with manufacturers on all aspects of this UK Radio Interface Requirement. All UK Radio Interface Requirements notified under Directive 98/34/EC will be published and will be made available free of charge from the RA Information and Library Service and/or the RA web-site. The addresses for both the library and web-site are given on the back cover of this document.
- 1.7 Further information on this UK Radio Interface Requirement can be obtained from the technical enquiry contact given on the back of this document.

2 Minimum Equipment Requirements for Operation within the UK

- 2.1 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.
- 2.2 This UK Radio Interface Requirement gives a high level description of how the spectrum in the UK is used for Programme Making and Special Events. It does not prescribe technical interpretation of the 'essential requirements' of Directive 1999/5/EC.
- 2.3 This UK Radio Interface Specification therefore stipulates the necessary equipment parameters for radio equipment used for Programme Making and Special Events in the UK. Tables 2.1 to 2.5 contain the relevant equipment parameters. These together with the 'essential requirement' detailed in Article 3.2 of Directive 1999/5/EC constitute the minimum equipment requirements for Programme Making and Special Events within the UK.
- 2.4 Where channel spacing or channel bandwidth is defined in tables 2.1 to 2.5 the centre frequency of the first channel is at a distance of half the channel spacing from the lower frequency band edge.
- 2.5 The technical parameters specified in the UK Radio Interface Requirement are applied to achieve the desired level of compatibility within programme making and special event services and with other radiocommunications services whilst promoting enterprise, innovation and competition.
- 2.6 This UK Radio Interface Requirement provides the necessary technical information which facilitates access to programme making and special event spectrum by making clear the assumptions that are made in planning the use of programme making and special event 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 1999/5/EC on products. Any specified parameters within this document are for the purpose of identifying product options and not as a national product requirement.

Table 2.1 : Minimum Equipment Requirements for Radio Microphones

Radio Microphones				
Wireless telegraphy apparatus designed or adapted for telephony, for the purpose of aids to project personal voice or music.				
Frequencies or Frequency Band (MHz)	Radiated level ¹	Maximum Channel Bandwidth	Notes	Reference Standard ²
175.250, 175.525, 176.400, 176.600, 176.800, 177.000, 184.600, 184.800, 185.000, 191.900, 192.100, 192.300, 192.600, 192.800, 193.000, 199.700, 199.900, 200.100, 200.300, 200.600, 200.800, 201.000, 207.700, 207.900, 208.100, 208.300, 208.600, 208.800, 209.000, 216.100, 216.300, 216.600 216.800, 217.000	10 mW erp	200 kHz	Some frequencies not available for use in Northern Ireland, Channel Isles & Isle of Man	ETS300 422
470.00 to 854.00 MHz	10 mW erp	200 kHz	This band is shared with broadcasting, aeronautical radiolocation & radioastronomy services. The availability of frequencies for radio microphones depends on location.	ETS300 422
854.25 to 862.00 MHz	10 mW erp	200 kHz		ETS300 422
1785.00 to 1800.00 MHz	[tbc]	[tbc]	For digital radiomicrophones only	[EN 301 840]

¹ Radiated level may be increased to 50 mW erp for transmitting equipment designed to be worn in close contact with the body.

² Assumed to be fulfilled in frequency planning and defining the equipment type – compliance with which is not mandatory

Table 2.2 : Minimum Equipment Requirements for Talkback

Talkback				
Wireless telegraphy apparatus designed or adapted for telephony, for the purpose of communicating the instructions of the director instantly to all those concerned in making the programme; these include presenters, interviewers, cameramen, sound operators, lighting operators and engineers.				
Frequencies or Frequency Band (MHz)	Maximum Radiated level	Channel Bandwidth	Notes	Reference Standard ¹
47.55 to 48.80 52.00 to 52.95	25 W erp	12.5 kHz	For on-site use at temporary locations. Duplex Base Tx - 52 MHz band Duplex Portable Tx - 48 MHz band	EN 300 086
[67.7500 to 67.8375]	[25 W erp]	[12.5]	For on-site use at temporary locations. Base Tx. Duplex with 75 MHz band	EN 300 086 ²
74.68125 to 74.71875	25 W erp	12.5 kHz	Simplex.	EN 300 086
75.26250 to 75.30000	25 W erp	12.5 kHz	For on-site use at temporary locations. Portable Tx. Duplex with 67 MHz band	
76.80625 to 76.84375	25 W erp	12.5 kHz	For wide-area use. Mobile Tx. Duplex with 86 MHz	
78.18375 to 78.25875	25 W erp	12.5 kHz	For wide area or on-site use at temporary locations. Simplex.	
86.6750	25 W erp	12.5 kHz	Available only in Wales & West England	
86.80625 to 86.84375	25 W erp	12.5 kHz	For wide-area use. Base Tx. Duplex with 76 MHz	
140.98750 to 141.48750	25 W erp	12.5 kHz	For wide area use. Simplex and Duplex Base Tx. Duplex with 212 MHz band. Not available in Channel Islands. Restricted availability in Northern Ireland & Scotland.	
181.69375 to 181.80625	25 W erp	12.5 kHz	For wide area use. Simplex	
211.91875 to 212.19375	25 W erp	12.5 kHz	For wide area use. Mobile Tx. Duplex with 141 MHz band Not Available in Northern Ireland, Isle of Man or Channel Islands	
427.7625 to 428.0125 442.2625 to 442.5125	25 W erp	12.5 kHz	For wide area or on-site use at temporary locations. Simplex and Duplex. Available only in Greater London, West & East Midlands, Greater Manchester, Merseyside, South Yorkshire, Cleveland, Tyne & Wear, Glasgow, Edinburgh & Aberdeen.	
446.42500 to 447.51250	5 W erp	12.5 kHz	For on-site use at temporary locations. Simplex, Duplex.	EN 300 086 ²
454.98750 to 455.47500	5 W erp	12.5 kHz	For on-site use at temporary locations. Base Tx Duplex with 468 MHz band.	
457.25000 to 457.47500	5 W erp	12.5 kHz	For on-site use at temporary locations. Base Tx Duplex with 467 MHz band.	
461.23125 to 461.25625	5 W erp	12.5 kHz	For on-site use at temporary locations. Base Tx Duplex with 468 MHz band.	
462.75000 to 463.00000	1 W erp	12.5 kHz	For indoor use at permanent locations. Base Tx Duplex with 469 MHz band.	
467.2625 to 469.8750	1 W erp	12.5 kHz	For on-site use at temporary locations. Portable Tx Duplex with 455, 457 and 462 MHz bands. For indoor use at permanent locations. Portable Tx. Duplex with 462 MHz band.	EN 300 086

¹ Assumed to be fulfilled in frequency planning and defining the equipment type – compliance with which is not mandatory.

² Transmitters operating with 100% duty cycle in these bands are assumed to exceed a Transmitter Intermodulation Attenuation of 70 dB which is appropriate for base stations to be used in special service conditions (For example, EN300 086 para. 5.1.7)

470.0 to 582.0 614.0 to 854.0	1 W erp	12.5, 25 kHz	For indoor use at permanent locations. These bands are shared with broadcasting. The availability of frequencies depends on location.	
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Table 2.3 : Minimum Equipment Requirements for Programme Audio Links

Programme Audio Links				
Wireless telegraphy apparatus designed or adapted for telephony, for the purpose of carrying broadcast-quality monophonic or stereophonic music and speech signals or for carrying multiple communications-quality talkback signals.				
Frequencies or Frequency Band	Radiated level	Channel Bandwidth	Notes	Reference Standard ¹
48.425, 48.475, 48.525, 52.875, 52.950 MHz	10 W erp	50 kHz	For temporary and permanent point-to-point links.	EN 300 454
48.3000, 52.7500 MHz	10 W erp	200 kHz	For temporary and permanent point-to-point links.	
53.7500 to 55.7500 MHz 60.7500 to 62.7500 MHz	5 W erp	75 kHz	For portable links at temporary locations.	
191.7, 199.7, 199.9, 200.1 MHz	1 W erp	200 kHz	For portable links at temporary locations. Not Available in Northern Ireland, Isle of Man or Channel Islands	
215.26875 to 215.49375 MHz	25 W erp	75 kHz	For temporary point-to-point links.	
224.00625 to 224.49375	25 W erp	75 kHz	For portable links at temporary locations. The band is also shared with Digital Audio Broadcasting.	
425.3375, 425.3875, 425.4375, 425.4875, 425.5375 MHz	25 W erp	50 kHz	For temporary point-to-point links.	
446.42500 to 447.51250 MHz 454.98750 to 455.47500 MHz	25 W erp	50 kHz	For temporary point-to-point links.	
470.0 to 582.0 614.0 to 854.0	5 W erp	200 kHz	For temporary point-to-point links. These bands are shared with broadcasting. The availability of frequencies depends on location.	
854.250 – 858.750 MHz 859.750 – 862.000 MHz	5 W erp	50, 200kHz	For portable or temporary point-to-point links. These bands are adjacent to TV broadcasting. The availability of frequencies depends on location.	
1488.00 to 1491.00 MHz	20 dBW erp	500 kHz	Temporary point-to-point digital links.	MPT 1410
1517.00 – 1525.00 MHz	[20dBW] erp	[tbc]	Temporary point-to-point digital links.	ETS 300 630 ETS 300 631

¹ Assumed to be fulfilled in frequency planning and defining the equipment type – compliance with which is not mandatory.

Table 2.4 : Minimum Equipment Requirements for Programme Video Links

Programme Video Links				
Wireless telegraphy apparatus designed or adapted for carrying broadcast-quality video together with music and/or speech signals.				
Frequencies or Frequency Band	Radiated level	Maximum Channel Bandwidth	Notes	Reference Standard ¹
2.40, 2.42, 2.44, 2.46, 2.48, 2.50, 2.52, 2.54, 2.56, 2.58, 2.60, 2.62, 2.64, 2.66, 2.68 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
3.51, 3.53, 3.55, 3.57, 3.59 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
5.4820, 5.5060, 5.5300, 5.5540, 5.5780, 5.6925, 5.7175, 5.7425, 5.7800, 5.8050 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
7.1100 to 7.2500 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
7.3125, 7.3475 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
7.3620 to 7.4240 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
8.4700, 8.4900 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
10.31, 10.33, 10.35 GHz	40 dBW erp	20 MHz	Temporary point-to-point, mobile & portable video link. Radio cameras	
11.74666, 11.82338, 11.9001, 11.97682 GHz	-20 dBW erp	20 MHz	Low power Radio cameras	
12.2125, 12.2375, 12.2625, 12.2875, 12.3125, 12.3375, 12.3625, 12.3875, 12.4125, 12.4375, 12.4625, 12.4875 GHz	40 dBW erp	25 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
24.2500 to 24.5000	40 dBW erp	25 MHz	Temporary point-to-point, mobile & portable links. Radio cameras	
48.0000 to 48.4000	30 dBW erp	100 MHz	Temporary point-to-point links.	

¹ Assumed to be fulfilled in frequency planning and defining the equipment type – compliance with which is not mandatory.

Table 2.5 : Minimum Equipment Requirements for Data Links

Data Links				
Wireless telegraphy apparatus designed or adapted for the remote control of cameras and other programme making equipment and for signalling.				
Frequencies or Frequency Band	Radiated level	Channel Bandwidth	Notes	Reference Standard ¹
181.74375, 181.76875, 181.79375 MHz 189.70625, 189.78125, 189.79375 MHz	10 W erp	12.5 kHz		ETS 300 113
462.76875, 462.85625, 462.93125, 462.98125 MHz	1 W erp	12.5 kHz	Limited availability in urban areas.	ETS 300 113 ²

¹ Assumed to be fulfilled in frequency planning and defining the equipment type – compliance with which is not mandatory.

² Transmitters operating with 100% duty cycle in this band are assumed to exceed a Transmitter Intermodulation Attenuation of 70 dB which is appropriate for base stations to be used in special service conditions (For example, EN300 086 para. 5.1.7)

Document history

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There is no current published version of this UK Radio Interface Specification.