

UK Interface Requirement 2037

Performance parameters for fixed UHF network for
telemetry, telecontrol or data services

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References

- 1 The future of UHF scanning telemetry and telecontrol frequency assignments – A report for DTI, Joint Radio committee (JRC) and Technical Advisory Group (TAG)
- 2 Fixed point-to-point and point-to-multipoint scanning telemetry radio services with analogue modulation operating in the frequency ranges 457.5 to 458.5 MHz paired with 463.0 to 464.0 MHz.
- 3 Voluntary National Specification 2111 – performance parameters for scanning systems operating in the frequency band 457.5 to 458.5 MHz in which spectrum is managed by Ofcom (Notification Number: 2001/78/UK)

Abbreviations

AGM	Angle Modulation
EN	European Standard
ETS	European Telecommunications Standard
ETSI	European Telecommunications Standards Institute
FM	Frequency Modulation
kHz	kilo Hertz
MHz	Mega Hertz
MPT	Ministry of Post and Telecommunications
N/A	Not applicable
Ofcom	Office of Communications
PMR	Public Mobile Radio
R&TTE	Radio equipment and Telecommunications Terminal Equipment
TBD	To be decided
VNS	Voluntary National Specification

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 (SI) 730. In accordance with Articles 4.1 and 7.2 of Directive 1999/5/EC, this UK Interface Requirement contains the requirements for the licensing and use of scanning telemetry systems in the specified frequency band.
- 1.2 Nothing in this UK Interface Requirement shall preclude the need for equipment and antennas to comply with, or impose any additional requirements to, those requirements set out in Directive 1999/5/EC.
- 1.3 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 the equipment must meet the minimum requirements specified in this UK Interface Requirement.
- 1.4 The criteria given in the main body of this UK Interface Requirement will apply in the licensing of scanning telemetry systems. The frequency band administered by Ofcom in the UK for fixed UHF network for telemetry, telecontrol or data services is 457.5 to 458.5 MHz and 463.0 to 464.0 MHz. An adaptable cellular plan has been devised as a means of maximising the use of the service and for providing a defined planning and frequency co-ordination environment. References 1 and 2 provide more detail).
- 1.5 This UK Interface Requirement will be revised as necessary to reflect changing requirements.
- 1.6 UK operators and manufacturers have been consulted through the development of this UK Interface Requirement, including the assumptions made for the Technical Frequency Assignment Criteria (based on the planning and propagation aspects required to assign scanning telemetry systems).
- 1.7 Further information on this document can be obtained from the technical enquiry contact given on the back cover of this document.
- 1.6 All UK Interface Requirements notified under Directive 1998/34/EC will be published and will be made available free of charge from the Ofcom web-site at <http://www.ofcom.org.uk>.
- 1.7 Further information on this UK Interface Requirement can be obtained from the technical enquiry contact given on the back of this document.

2. Assignment conditions and frequency planning within the UK

- 2.1 The minimum radio 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 Interface Requirement indicates how the spectrum in the UK is used for fixed UHF network for telemetry, telecontrol or data systems. It does not prescribe a technical interpretation of the “essential requirements” of Directive 1999/5/EC.
- 2.3 This UK Interface Requirement therefore sets out the channel occupation rules and frequency planning assumptions appropriate to scanning telemetry systems in tables 2.1 and 2.2.
- 2.4 Directive 98/34/EC requires Member States to notify technical regulations, such as this Interface Requirement, to the European Commission in advance to give the Commission and other Member States the opportunity to consider and, if thought fit, object to their implementation.
- 2.5 The Technical Frequency Assignment Criteria for fixed UHF network for telemetry, telecontrol or data services describes the principles used to assign the minimum EIRP transmit power requirements to meet the desired performance objectives for a scanning telemetry system. Assignment methodology is based on ‘reasonable use’ of equipment and assignment principles to encourage the efficient use of the radio spectrum. Ofcom may preclude systems that are not suitable for deployment in the UK.
- 2.6 The UK believes that this UK Interface Requirement brings maximum benefit to the fixed UHF network for telemetry, telecontrol or data services industry while promoting enterprise, innovation and competition.
- 2.7 The Candidate Harmonised Standards ETS 300 086- 2 and ETS 300 113-2, PMR standards respectively for angle modulation and data transmission, are partially suitable for some of these radio services. The conditions of their applicability are detailed in information sheet RA386.
- 2.8 UK fixed UHF network for telemetry, telecontrol or data services not covered by the above-mentioned equipment Candidate Harmonised Standards are covered by the Voluntary National Specification (VNS) 2111 as the reference standard.
- 2.9 This UK Interface Requirement therefore sets out the (high level) assignment conditions and planning assumptions with respect to the planning of scanning telemetry systems in the UK.

Table 2.1: Minimum equipment requirements

1	Frequency band (MHz)	457.5 to 458.5 and 463.0 to 464.0
2	Radio Service	Fixed.
3	Application	UHF network for telemetry, telecontrol or data systems (also referred to as Scanning Telemetry).
4	Channelling modulation	Analogue base-band in 12.5 kHz. Channel spacing is 12.5 kHz in adaptable cellular plan. More details are given in reference 2.
5	Transmit power limit	Maximum transmitter power 10 dBW
6	Channel occupation rules	The band comprises of 80 channels, 72 of which are reserved for adaptable cellular plan. 8-channels are reserved for other users and these are not subject to the adaptable cellular plan. More details are given in reference 2.
7	Licensing regime	Frequency assignment and licence per operator or group of operators. 72 channels are arranged on a 12-cell, 6-channel per cell, regular re-use plan. Each utility, namely gas, electricity and water, has access too two exclusive channels per cell.
8	Additional essential requirements	N/A
9	Frequency planning assumptions	Described in reference 2.
10	Remark	<ol style="list-style-type: none"> 1. Reference 1 gives a full description and discussion of the Adaptable Cellular Plan. 2. In the absence of any European Standard for this band Ofcom refers reference 3 for advice on equipment parameters.

Annex A.

Additional performance parameters (informative)

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|---|---|--|
| 1 | Omni –directional antennas as base stations | In the absence of any European Standard for this band Ofcom refers reference 3 for advice on equipment parameters. |
| 2 | Sector Antennas as base stations | In the absence of any European Standard for this band Ofcom refers reference 3 for advice on equipment parameters. |
| 3 | Directional antennas as base stations | In the absence of any European Standard for this band Ofcom refers reference 3 for advice on equipment parameters. |

Document History

Draft	Date	Changes
1.0	Dec 2003	Rebranded to Ofcom Style



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