
Innovation and Trial licensing

Guidance notes for applicants

About this document

This document provides an overview and guidance for those wishing to test, develop, research, trial or demonstrate radio equipment in the UK. It provides details of the application process and information on the terms and conditions of the licences that Ofcom offers under the Wireless Telegraphy Act 2006.

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1. Guidance notes for innovation and trial licensing

What are innovation and trial licences?

- 1.1 The Communications Act 2003 requires Ofcom to have regard to the desirability of encouraging investment and innovation in relevant markets when carrying out our duties.
- 1.2 Under the terms of the Wireless Telegraphy Act 2006, it is an offence to install or use radio apparatus, except under and in accordance with a licence issued by Ofcom. The exception to this is only where the apparatus has specifically been made exempt from the licensing requirement by Regulation.
- 1.3 Innovation and trial licensing supports the research, development and trialling of innovative uses of the radio spectrum in the UK. These licences enable the use of radio spectrum for innovative purposes for a time limited period covering:
 - testing and development of wireless telegraphy (radio) equipment;
 - scientific research and experimentation; and
 - trials and demonstrations of radio apparatus, applications and technologies.
- 1.4 However, they do not allow the deployment of commercial or operational networks or systems and are not appropriate for applicants seeking to acquire a licence for long term access. Information on the process for those wishing to seek longer term access to spectrum can be found at <https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/spectrum-demand-requests>
- 1.5 Due to the differing activities covered, there are two classes of licence. These are the Innovation and Research licence (used for research, development and testing purposes) and the Demonstration and Trial licence (largely used for demonstrating and trialling new equipment).

What is an Innovation and Research (formerly Non-Operational Development) Licence?

- 1.6 An Innovation and Research licence allows an applicant to use spectrum on a non-commercial, non-permanent basis to build innovative spectrum apparatus or equipment or to undertake academic or scientific research. The licence also covers the testing equipment for various purposes such as EMC testing or antenna calibration. The licence authorises spectrum use at a single location such as a university, test facility, factory or laboratory. The licence does not permit the involvement of the public in any trials. Collaboration and testing work with third parties is permitted, provided this does not constitute an operational service.

What is a Demonstration and Trial (formerly Non-Operational Temporary Use) Licence?

- 1.7 A Demonstration and Trial licence allows an applicant to use spectrum on a non-commercial, non-permanent basis to trial and demonstrate a new system, radio concept, application or service. The licence allows third parties to participate in trials but requires any participants to be fully informed of the nature of the trial (i.e. that it is for a temporary, non-commercial application). Demonstration and Trial licences are only available for new services that do not fit within our existing licence categories or technical parameters.

Is a licence required for all testing and development work?

- 1.8 Testing and development work is exempt from licensing for certain frequencies under 960 MHz if transmissions can be carried out under suppressed radiation conditions. The definition of suppressed radiation conditions is that the radiated field strength, measured at a specified distance from the boundary of the premises, must not exceed the limits shown within certain frequency bands (see Table 1). Further information is set out in Statutory Instrument 1989 No. 1842 which can be found at <http://www.legislation.gov.uk/uksi/1989/1842/contents/made>

TABLE 1

Frequency Band (MHz)	Limit for maximum field strength (dB μ V/m)	Distance at which measurement taken (m)
0.150 – 0.2835	34	100
0.5265 – 1.605	34	100
1.605 – 2.1735	48	100
2.1905 – 3.950	48	100
22.00 – 29.999	34	100
30.00 – 70.50	30	30
71.50 – 74.60	30	30
75.40 – 80.00	30	30
84.00 – 108.00	30	30
137.00 – 143.00	30	30
144.00 – 146.00	30	30
148.00 – 153.00	30	30
156.8375 – 225.00	30	30
400.00 – 405.50	30	30
406.50 – 450.00	30	30
453.00 – 464.00	30	30
467.00 – 960.00	30	30

- 1.9 In addition, the apparatus must meet the spurious emission limits also set out in this document (see Table 2). Equipment must be designed, constructed, maintained and used so that harmful interference to other users of wireless telegraphy is unlikely.

TABLE 2

Frequency Band (MHz)	Limit for maximum field strength (dB μ V/m)	Distance at which measurement taken (m)
below 30	23	100
30 and above	23	30

- 1.10 If you wish to carry out testing and development work on equipment that will comply with the conditions of our licence exemption regulations, then you can do so without applying for a non-operational licence. Further details on licence exempt use of spectrum can be found on our website here:
<http://stakeholders.ofcom.org.uk/spectrum/information/licence-exempt-radio-use/>
- 1.11 If you are an existing licensee and you wish to carry out testing and development that does not breach any of the conditions in your existing licence, you may do so without applying for a non-operational licence, otherwise a new licence must be obtained.

Are there specific frequencies allocated for innovation and trial licensing?

- 1.12 There is no specific spectrum set aside for this purpose. We need to coordinate access with existing spectrum users before issuing a licence.

Can an innovation and trial licence be issued in liberalised and/or tradable spectrum?

- 1.13 Yes. Licences issued by Ofcom do not guarantee exclusive use of the spectrum. We may grant additional authorisations to allow the use of all, or part, of a spectrum band. However, we would develop the conditions of use under any such additional authorisations in order to manage the risk of harmful interference.
- 1.14 We must have regard to innovation when carrying out our duties. Where we judge that harmful interference is unlikely, we consider that having a centralised process for issuing non-commercial licences to aid trials and development on a non-interference, non-protected basis is effective, even when spectrum is liberalised and tradable. We will listen to, and work with, existing licensees when assessing the risk of harmful interference to existing services.

2. Licence conditions

What are the conditions of the licence?

- 2.1 Innovation and trial licences are issued on a non-interference and non-protected basis for a temporary period. A licence does not allow the deployment of a commercial and/or operational service.
- 2.2 The equipment must be used at all times in accordance with the terms of the licence and the terms of the General Licence Conditions booklet. A copy of this can be accessed on our website at: https://www.ofcom.org.uk/_data/assets/pdf_file/0032/89744/General-Licence-Conditions.pdf. In certain circumstances, Ofcom may include further specific conditions as a requirement of issuing the licence in order to mitigate any interference risk.
- 2.3 Failure to comply with the terms may result in revocation of the licence and may lead to prosecution of the offender.
- 2.4 Any proposed change in the details of the system (equipment details, location, usage etc.) must be notified in advance for approval. A change from the details shown in the licence made without prior approval from Ofcom may mean that operation of the equipment would be illegal.

What does non-interference, non-protected mean?

- 2.5 Non-interference, non-protected means that the equipment must not cause harmful interference to any other authorised services and that no protection will be given from harmful interference received from other authorised services.

What is harmful interference?

- 2.6 Section 115(5) The Wireless Telegraphy Act 2006 states:
“For the purposes of this Act, interference is harmful if –
 - a) it creates dangers, or risks of danger, in relation to the functioning of any service provided by means of wireless telegraphy for the purposes of navigation or otherwise for safety purposes; or
 - b) it degrades, obstructs or repeatedly interrupts anything which is being broadcast or otherwise transmitted:
 - i) by means of wireless telegraphy; and
 - ii) in accordance with a wireless telegraphy licence, regulations under section 8(3) or a grant of recognised spectrum access or otherwise lawfully”

What happens if I cause harmful interference?

- 2.7 If you cause harmful interference, you will be in breach of your licence and will be required to cease causing that interference. If the harmful interference persists, your licence may be revoked and you may be prosecuted.

How long will a licence last and can it be renewed at the end of the term?

- 2.8 Both innovation and trial licences may allow the use of radio equipment for a period of up to twelve months.
- 2.9 Licences cannot be renewed. Holders of innovation and trial licences may apply for a new licence to continue their development work. However, there is no guarantee that a further licence can be granted. If applying for a new licence the application must include a justification as to why an additional period is required.

What will a licence cost?

- 2.10 For an Innovation and Research Licence, a fee of £50.00 per year for each location is payable when the licence is issued.
- 2.11 For a Demonstration and Trial Licence, a fee of £50.00 per month per location is payable when the licence is issued.

Can I use a Demonstration and Trial licence to launch a commercial service?

- 2.12 No. Demonstration and Trial licences may not be used to operate a commercial service. The licences are time limited and are intended for research, trial and demonstration purposes only.

Can I use a Demonstration and Trial licence to run a time limited trial involving third parties?

- 2.13 Yes. Trial licences are issued on the understanding that the trial is carried out on a non-operational and non-commercial basis. The trial licensee must ensure that each participant is fully informed of the nature of the trial (i.e. temporary, for trial purposes only, non-commercial), any costs that may be charged and that there is no obligation to subscribe to any commercial service that might subsequently be launched by the licensee following completion of the trial and obtaining an operational licence.

If equipment developed under an innovation and trial licence is a success, can I have an operational licence?

- 2.14 Licences issued as part of the innovation and trial licensing process provide no guarantees that spectrum would be available after the end of the licence period to provide an operational and/or commercial service. Ofcom has set up a process to consider such requests; further information can be found at <https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/spectrum-demand-requests>.

3. Licence application process

How do I apply for an innovation and trial licence?

- 3.1 You can make an application by completing the form on our website (available here: <https://www.ofcom.org.uk/innovation>) and sending it by email to innovation.licensing@ofcom.org.uk or posting it to:

Innovation and Trial Licences

Ofcom Riverside House

2a Southwark Bridge Road

LONDON

SE1 9HA

How long does it take to issue a licence?

- 3.2 The length of time from the date of application to the issue of a licence is closely linked to the nature and complexity of the proposals and the frequencies the applicant wishes to use. The co-ordination of applications is usually processed within six weeks from date of receipt but may take longer in some cases.

What information do I need to provide?

- 3.3 We will need a full description of the project, including any relevant technical information. We will need information on the start and end date of the project and information about the transmitter(s), its location(s), power, transmission times, frequency, class of emissions and antenna details.

How is my application assessed?

- 3.4 When your application is received, the technical details will be coordinated both internally at Ofcom and with other UK spectrum managers (for example, the Ministry of Defence and the Civil Aviation Authority) who will conduct assessments on the risk of harmful interference to existing services. In addition, we may need to contact existing licensees or other authorised users of the spectrum in order to carry out our assessment. A licence would be issued only after these necessary assessments have been completed.
- 3.5 For an overview of how radio spectrum is managed in the UK, you may wish to refer to the UK Frequency Allocation Table (UKFAT). For existing licence classes and the spectrum that they occupy, you may wish to refer to the UK Plan for Frequency Authorisation (UKPFA). Both of these can be found on our website.

I am making efforts to mitigate the effects of my transmissions on existing spectrum users. Will this be considered when my application is assessed?

- 3.6 When considering applying for access to a frequency band, it is worth considering the current use of the spectrum. Access to spectrum that is heavily used or used to provide critical/ safety of life services may be problematic, especially in populated areas. If you intend to request access to one of these frequency bands then it would be worth considering a location where the use may be limited.
- 3.7 In all cases it is important that anything that may reduce the potential for harmful interference is stated in the application form, as this could have a substantial bearing on the assessment of the application. Mitigation could be provided by a number of factors including reducing the transmit power to the minimum required, making transmissions inside a screened room or Faraday cage, or by transmitting into a dummy load. Some may not appear so obvious; transmitting indoors, antenna direction and even the choice of location may reduce the potential of causing harmful interference to existing authorised users.

In what circumstances may a licence be refused?

- 3.8 We may not be able to issue a licence if we judge that harmful interference is likely, in which case we would contact you explaining the reasons. We will, however, endeavor to obtain mutually agreeable alternatives to the original application when possible.

What if the radio equipment being used is not fully compliant with the Radio Equipment Directive (RED)?

- 3.9 As licensing covers the development and trialling of innovative equipment, it is feasible that this equipment would not yet be CE compliant. Radio equipment must, however, be compliant with the RED if it is to be placed on the UK market. Please see below for further information <https://www.ofcom.org.uk/spectrum/interference-enforcement/manufacturers-importers-suppliers>

What if I wish to discuss the details or progress of my application?

- 3.10 Please contact us at innovation.licensing@ofcom.org.uk or call 020 7981 3157 or in the first instance with enquiries, including for specific engineering advice.

4. Information confidentiality

Will my application be kept confidential?

- 4.1 In some cases, we may have to provide technical details to spectrum managers or licensees to aid us in assessing any risks of harmful interference. These may, at times, include non-governmental organisations which own spectrum rights. We will provide them with technical details where necessary but will keep your company and/or individual details confidential.
- 4.2 Specifically, we may make available the information in sections C and D of this application form in part or in full to parties outside Ofcom. If required, we could treat the overview of your project (i.e. section c1 and c2 of the application form) as confidential to the extent permitted by our legal obligations. However, we would discuss this with you on a case by case basis.

Will you ask for access to information arising from tests or trials?

- 4.3 We reserve the right to request access to any test results, data or information arising from the use of spectrum under an innovation and trial licence if considered necessary. This might be in instances where it is considered that they might have a bearing on interference or other spectrum management considerations. Such information will be treated as commercially confidential and would not ordinarily be disclosed to any other party without the prior agreement of the licensee except where this is necessary or desirable to meet legal obligations. We have obligations under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 that may apply here.

5. Existing licensees

If I hold an existing operational licence, do I get a reduction in my licence fee if an innovation and trial licence is issued in the bands that I use?

- 5.1 A licence gives a licensee the right to operate equipment in a particular band. Issuing a non-operational licence on a non-interference, non-protected basis does not change that, therefore there is no basis for considering a reduction in a licence fee.

If I hold an existing operational licence do I have a right to refuse access by innovation and trial licensee to the spectrum my licence refers to?

- 5.2 We will always listen to, and work with, existing licensees regarding concerns about any possible harmful interference to existing services. Ultimately, however, we have to decide whether to issue a licence after due consideration of the relevant factors.

I have just acquired a licence to use some spectrum; will there be innovation and trial licences in that band now or in the future?

- 5.3 At the time of an award, there may be a number of innovation and trial licences in force in the spectrum bands being awarded. We may issue further non-operational licences in any spectrum bands, subject to an assessment that harmful interference is unlikely to be caused.