Commission for
Communications Regulation

Radio Experimenter's Licence

Part VI:Technical Conditions Of Experimenter's Station

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1 Purpose

This document specifies the general conditions attached to a Licence issued under the Wireless Telegraphy (Experimenter's Licence) Regulations 2002.

2 Summary Information.

These conditions detail the characteristics of the equipment that need to be considered for the purposes of ensuring that no harmful interference is caused to other licensed services and that the station or any part thereof is constructed, modified, maintained and operated in such a manner as to ensure that the safety of persons or property is not endangered. They do not include detailed equipment specifications.

The conditions specified in this document may be revised and/or added to from time to time.

Nothing contained in these conditions shall absolve the licensee from any requirement in law to obtain whatever additional consents, permissions, authorisations, or licences that may be necessary for the exercise of entitlements under the licence.

3 System Engineering

3.1 General

The mechanical and electrical construction of the installation shall be in accordance with best practice.

The practice of good system engineering is a necessary requirement to minimise the potential for interference to, or from, radio-communication services operating in accordance with the Irish Table of Frequency Allocations.

3.2 Equipment Construction.

3.2.1 New Equipment

All controls, meters, indicators and terminals shall be clearly labelled. Details of the main and any auxiliary power supply from which the equipment is intended to operate shall be clearly indicated.

Controls

Controls which, when wrongly adjusted, change the system parameters shall be immediately accessible to qualified personnel only.

Manufacturer's Identification.

The equipment shall be labelled with the manufacturer's trademark, type designation and serial number.

3.2.2 Home Constructed, Modified and Vintage Equipment

The equipment shall be constructed, modified, operated and maintained in such a manner to minimise the potential for interference to radio-communication services operating in accordance with the Irish Table of Frequency Allocations.

No modifications shall be made to any transmitter or RF Power Amplifier enabling operation on bands other than those specified in Part IV of the Experimenters Licence.

Due care and attention shall be paid to filtering in such equipment so that it does not contravene the conditions of the Licence or Section 6 of these technical conditions.

3.2.3 Necessary Test Equipment

Every Experimenter shall have a device capable of measuring Standing Wave Ratio and an accurate method to ensure that operations take place on the correct frequency. In the case of 'homebrew' equipment a simple frequency counter or synthesised main receiver/ transceiver would suffice.

4 Non-Ionising Radiation

The Licensee shall ensure that non-ionising radiation emissions from the station operated by the Licensee are within the limits specified by the guidelines published by the International Commission for Non-Ionising Radiation Protection ("ICNIRP").

Particular attention should be paid to the location of antennae and feeders in regards to their proximity to habitations and areas accessible to third parties.

Care should be taken when operating at temporary locations for the purposes of contests, expeditions and during mobile use. When a mobile station is used from a static position the Licensee should consider the use of a reduced power, in particular where there is a possibility that a third party may come in contact with the antenna.

5 Morse Testing Speed

Emission Designation	Speed, send and receive (Words Per Minute)	Notes
A1A	5 (see note)	The send and receive speed will be 5 words per minute or the speed resulting from agreement by either CEPT or the ITU whichever is the lesser value.

6 Spurious Emissions

The following limits for spurious emissions are taken from the Radio Regulations of the ITU and concern the Amateur Service.

6.1 Transmitters Installed on or Before 1 January 2003

Frequency band containing the assignment	Attenuation (1)
9kHz -30MHz	40dB, 50mW (notes 2,3)
30MHz-235MHz above 25W (r.m.s.) 25W (r.m.s.) or less	 60dB or1mW (4) 40dB or 25µW
235-960MHz above 25W (r.m.s.) 25W (r.m.s.) or less	 60dB 40dB
960MHz-17.7GHz above 10W (r.m.s.) 10W (r.m.s.) or less	 50dB 100 µW

Notes

1 For any spurious component, the attenuation (mean power within the necessary bandwidth relative to the mean power of the spurious component concerned) shall be at least that specified below and the absolute mean power levels given shall not be exceeded.

2 For mobile transmitters which operate below 30MHz any spurious component shall be attenuated by at least 40dB without exceeding the value of 200mW, but every effort should be made to comply with the specified 50mW limit.

3 For hand portable equipment having a power output of less than 5W (r.m.s.) the attenuation of spurious emissions shall be a minimum of 30dB every effort should be made to comply with the specified 40dB limit.

4 The limit for spurious emissions shall be 10mW in Primary bands and 1mW in secondary bands.

6.2 Transmitters Installed after 1 January 2003

Service	Attenuation (dB) (1)
Amateur Service Below 30MHz	43+10log(P) or 70dB whichever is less stringent
Amateur Service Above 30 MHz	43+10log(P) or 50dB whichever is less stringent

Note 1 Attenuation in dB below the power supplied to the antenna feeder.

7 Power

All references to power in this document and Part IV of the licence refer to Watts (r.m.s.) or dB relative to 1W (r.m.s.).

dB (W) = 10log (P_o/1)

Where P_o is the output power of the transmitter or R.F. Power Amplifier in Watts.

For assessment of licence conditions power will be measured at the output of the transmitter or R.F. Power Amplifier, if one is present. For measurement of power in SSB mode; a 1 kHz tone shall be used and will be adjusted to peak the modulated signal and keeping distortion within the specification of the transmitter.