



An Coimisiún um  
**Rialáil Cumarsáide**  
Commission for  
**Communications Regulation**

# Amateur Station Licence Guidelines

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**Commission for Communications Regulation**

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# 1 Introduction

- 1.1 A licence to keep and operate apparatus for wireless telegraphy is required under Section 3 of the Wireless Telegraphy Act 1926, as amended.
- 1.2 The licensing of wireless telegraphy apparatus for Amateur Stations<sup>1</sup> is governed by the Wireless Telegraphy (Amateur Station Licence) Regulations, Statutory Instrument No 192 of 2009 (the "Regulations").<sup>2</sup> Amateur Station Licences granted by ComReg under the Regulations permits the keeping and operation of the apparatus for wireless telegraphy at the location specified in the licence but does not exempt the licensee from having to comply with any other statutory requirements or obligations as may apply.
- 1.3 This document sets out the Commission for Communications Regulation's ("ComReg") guidelines for Amateur Station Licence applicants and Licensees. Applicants must read this document carefully before applying for an Amateur Station Licence through the ComReg eLicensing website - [www.elicensing.comreg.ie](http://www.elicensing.comreg.ie)
- 1.4 Revision 6 of this document clarifies ComReg's position in relation to permitted bandwidths, modes of operation or usage which was not adequately clarified in revision 5.

## 1.2 Amateur Service

- 1.5 The Amateur Service is defined by the International Telecommunication Union ("ITU")<sup>3</sup> as: *"A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest."*
- 1.6 Internationally, spectrum bands are allocated for use by the Amateur and Amateur Satellite Service. ComReg issues Amateur Station Licences that permit the ownership and use of equipment within the specified frequency bands, in the State. Amateur Service frequency bands are allocated on either a primary service or a secondary service basis depending on whether the spectrum is being shared or not with other services.
- 1.7 An Amateur Station Licence allows the licensee to participate in what is a non-commercial hobby. Licensees are also permitted and encouraged to provide a means of communications during emergencies or natural disasters, as may be needed, for example

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<sup>1</sup> Amateur Station means a station in the amateur service. The term "Amateur" denotes that communications under an Amateur Station Licence are not permitted for commercial purposes or monetary gain.

<sup>2</sup> <https://www.irishstatutebook.ie/eli/2009/si/192/made/en/print>

<sup>3</sup> International Telecommunication Union: <http://www.int.int/>

the Amateur Radio Emergency Network<sup>4</sup> . Other than during emergencies or natural disasters a Licensee can only use radio equipment to communicate with other Amateur Station Licensees, located in the State or abroad.

## 1.3 Licence information

- 1.8 An Amateur Station Licence does not confer any right of ownership of any of the radiofrequency spectrum assigned as part of the Licence but merely permits the Amateur Station Licensee to possess and use the licensed wireless telegraphy apparatus in accordance with the Licence conditions, including the technical conditions which are also set out in Annexes 1 and 2 of this document.
- 1.9 A Licence shall, unless it has been revoked, withdrawn, or surrendered, remain in force for the lifetime of the Licensee specified in the Licence (with the exception of a temporary licence which shall expire on the date stipulated on the temporary licence).

## 1.4 Application Process

- 1.10 All applications for new or amended Amateur Station Licences must be made via the eLicensing website. <https://www.elicensing.comreg.ie/>
- 1.11 ComReg may only grant a licence for wireless telegraphy apparatus that is installed within Ireland at the location or locations set out in Part 2 of the Licence.
- 1.12 Following the granting of an Amateur Station Licence, the Licensee is permitted to transmit on the frequency bands specified in Annex 1. Rights of use in additional frequency bands may be granted upon application though such additional rights of use shall only be granted for a maximum period of 12 months and shall expire thereafter. A new application must be submitted to ComReg if a Licensee wishes to continue to operate in such additional frequency bands.

## 1.5 Required Qualifications

- 1.13 On order to apply for an Amateur Station Licence the applicant must have passed an examination to the ECC T/R 61-02<sup>5</sup> Harmonised Amateur Radio Examination Certificate (“HAREC”)<sup>6</sup> standard. This HAREC standard is based on electronic theory, regulatory

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<sup>4</sup> Amateur Radio Emergency Network: <http://aren.ie/news/>

<sup>5</sup> <https://docdb.cept.org/document/926>

<sup>6</sup> The Electronic Communications Committee Recommendation has set an agreed standard that enables national authorities to readily identify whether an individual is suitably qualified. The Electronic Communications Committee consists of the members of European Conference of Postal and

terms and best practices in radio operation and safety. ComReg does not recognise any other qualification for the purposes of granting an Amateur Station Licence.

- 1.14 Where an applicant is seeking a CEPT Class 1 Licence, evidence of having obtained a qualification in the sending and receiving of Morse code must be provided and may be in the form of a recognised equivalent licence from another national regulatory authority, provided the qualification is clearly indicated.
- 1.15 ComReg recognises licences granted by other National Regulatory Authorities, on condition that such licences meet the specified standard of T/R 61-02. ComReg does not recognise Novice or Intermediate Licences as suitable qualifications granted an Amateur Station Licence .
- 1.16 Under an agreement with ComReg, the Irish Radio Transmitters Society (“IRTS”)<sup>7</sup> currently manages the HAREC and Morse-code examinations. Candidates interested in sitting a HAREC and/or Morse-code examination should contact the IRTS Examination Board at <https://www.irts.ie/cgi/st.cgi?applying>.

## 1.6 Licence Fees Payable

- 1.17 The appropriate Amateur Station Licence fee must be paid at the time of applying.
- 1.18 Each new Amateur Station Licence shall incur a once off fee of €100 except for the following categories of Licence applicants shall incur a reduced fee of €30:
- new licences issued to persons aged 65 years and over;
  - new licences issued to persons who are in receipt of a Disability Allowance or Pension;
  - Temporary Licences as below; (for further information see Section 3)
  - Special Events Licence; or Additional Authorisations; or Visitors’ Temporary Licence.
- 1.19 All Amateur Station Licences, except for temporary assignments, are issued for the lifetime of the Licensee. In accordance with the Regulations, all licensees are required to confirm to ComReg every 5 years through the eLicensing website, that their Licence details are up to date and correct. Licensees are required to notify ComReg of any changes to the details relating to their Licences, as granted, such as their address or contact details, as soon as such changes occur and no later than 28 days after they have

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Telecommunications Administrations (CEPT) and this has a permanent office which is the European Communications Office [www.ero.dk](http://www.ero.dk)

<sup>7</sup> [www.irts.ie](http://www.irts.ie)

occurred.

## 1.7 Amendments to a Licence

- 1.20 Any requests for changes to licence details should be made via [www.elicensing.comreg.ie](http://www.elicensing.comreg.ie) with the appropriate fee of €30.

## 1.8 Surrender of a Licence

- 1.21 An Amateur Station Licence may be surrendered at the written request of the Licensee. Licence fees will not be refunded.

## 1.9 Revocation of a Licence

- 1.22 Where ComReg finds that the Licensee has not complied with any of the conditions attached to their Licence, it may take enforcement measures, which shall be objectively justifiable and in a proportionate manner, which may include the suspension or revocation of the Licence, pursuant to Regulation 8 of the Regulations.

# 2 Licence Types

- 2.1 This section describes the types of Amateur Station Licences which are available and explains the application requirements for each Licence type and the applicable terms and conditions.

## 2.1 CEPT Class 1 & CEPT Class 2 Licences

- 2.2 ComReg distinguishes between types of Amateur Station Licences while ComReg also acknowledges the existence of one CEPT Examination that is conducted to the ECC T/R 61-02<sup>8</sup> HAREC Standard and that all Amateur Station Licences granted by ComReg meet that standard.
- 2.3 ComReg will issue a holder of a Harmonised Amateur Radio Examination Certificate with either a CEPT Class 1 Licence (if evidence of the Morse-code qualification is provided) or a CEPT Class 2 Licence (if no evidence of the Morse qualification is provided). Morse-code speed requirements can be found in Annex 2 below.

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<sup>8</sup> The Electronic Communications Committee Recommendation has set an agreed standard that enables national authorities to readily identify whether an individual is suitably qualified. The Electronic Communications Committee consists of the members of European Conference of Postal and Telecommunications

## 2.2 Amateur Station Club Licence

2.4 An Amateur Station Club Licence is issued to a group of individual Licensees who are part of an Amateur Station Club. A specific individual must be nominated to act as the named Licensee on behalf of any Amateur Station Club. However, all rights and entitlements granted under an Amateur Station Club Licence, including any assigned frequency rights or call-signs, shall vest in the Amateur Station Club itself and not in the nominated individual holder of the Club Licence. The nominated individual holder of the Amateur Station Club Licence, in addition to being the holder of the Amateur Station Club Licence, must also hold a valid Amateur Station Licence in their own name and must agree to be responsible for the operation of all radio equipment which is operated under the Amateur Station Club Licence.

2.5 Applications for an Amateur Station Club Licence should be made via [www.elicensing.comreg.ie](http://www.elicensing.comreg.ie).

## 2.3 Automatic Stations

2.6 ComReg may grant an Automatic Station Licence to an Amateur Station Club Licence holder for the operation of a Repeater Station, an Internet Gateway, a Beacon, or similar Amateur Stations. Each station type is listed in Table 1 below.

2.7 Automatic Stations are often located on high sites which allow Licensees to use low power radios to get coverage over the widest possible area. Automatic Stations can be linked together, either by radio or using certain internet connections, to form a wider network.

2.8 Applications for an Automatic Station Licence should be made via [www.elicensing.comreg.ie](http://www.elicensing.comreg.ie). Details on the Automatic Station call-sign format can be found in Section 4.4.

2.9 Automatic Stations do not include Automatic Position Reporting (APRS) which is a mode of operation and is included as part of an individual Station.



**Table 1: Types of Automatic Stations**

Station Type	Characteristics
Voice Repeater	A voice repeater station is a radiocommunication station that receives a weak (low power) radio signal and retransmits it at a higher power, thereby enabling the signal to travel greater distances without degradation. Voice repeaters instantaneously retransmit the transmission of another Amateur Station on a different channel or channels.
Digital Voice Repeater	A digital voice repeater station is a radiocommunication station that operates on the same principle as the voice repeater, in that it is used to increase the transmission coverage of an Amateur Station.
Amateur Television Repeater	ATV repeaters are specifically used in connection with Amateur TV; Fast Scan (FSTV) or Slow Scan (SSTV) systems. These repeaters often play a very important role with Amateur television for extending coverage range.
Beacon	A beacon is a radiocommunication transmitter used to confirm the propagation characteristics on the particular frequency it is licensed for. These Beacons are co-ordinated internationally through the International Amateur Radio Union ("IARU").
Internet Gateway	An internet gateway is a radiocommunication station that connects two or more Amateur Stations together at geographically separate locations.
Others	Amateur Stations that do not fall under the above headings, such as remote operation, can still be applied for once all the relevant technical parameters, interconnects between other Amateur Stations etc. are outlined to ComReg

## 3 Temporary Licences

### 3.1 Visitors Temporary Licence

- 3.1 Amateur Station Licensees from countries that have not signed CEPT Agreement T/R 61-01 need to obtain a Visitors Temporary Licence from ComReg before they may operate in the State.
- 3.2 Visitors Temporary Licences are issued on the basis of the visiting Licensee's home licence and permit them to operate Amateur Station equipment in the State. A Visitors Temporary Licence will only be granted to those persons that have reached a standard equivalent to the Irish CEPT Class 2 (this is the CEPT / HAREC T/R61-02). ComReg does not recognise novice or intermediate licences as being suitable qualifications for the purpose of being granted a Visitors Temporary Licence.
- 3.3 Applicants seeking a Visitors Temporary Licences must apply via [www.elicensing.comreg.ie](http://www.elicensing.comreg.ie) together with the required fee of €30. Within eLicensing supporting documentation (HAREC or licence granted in another jurisdiction) should be submitted. If the application is approved, the applicant will be granted a Visitors Temporary Licence and will be issued with a Visitor's Irish call-sign, the format of which is detailed Section 4.
- 3.4 A Visitors Temporary Licence is issued for a maximum period of twelve months and renewal of this licence type is not permitted.

### 3.2 Special Events

- 3.5 Amateur Station Clubs and individual Amateur Station Licensees operate Amateur Stations to mark special events or occasions. Licensees may, on request, apply for additional frequencies, frequency bands and / or power levels over those specified in Annex 1 and be issued with a special call-sign for a temporary period (i.e., usually for a period of a couple of days to a week). Licensees seeking a special temporary call-sign must apply via [www.elicensing.comreg.ie](http://www.elicensing.comreg.ie), at a minimum of one month before the event.
- 3.6 The format of this type of call-sign is detailed in Section 4.

### 3.3 Additional Frequency Bands

- 3.7 Amateur Station Licensee's may apply for additional bands as specified in paragraph A1.4 of Annex 1. As the additional frequency bands are allocated to the Amateur Service on a Secondary basis, Licensees must operate on a non-protected, non-interference basis.
- 3.8 Applications for Additional Frequency Bands should be made via [www.licensing.comreg.ie](http://www.licensing.comreg.ie). All Additional Frequency Bands are issued by ComReg for a maximum period of twelve months.

## 4 Allocation of Call-Signs

- 4.1 A call-sign is a unique identifier that is assigned to each Licensed Amateur Station. ComReg is responsible for assigning such call-signs which must follow an internationally recognisable format as set down by the ITU.
- 4.2 'EI' call-signs are used for Amateur Stations located on Ireland's mainland while 'EJ' call-signs are used for Amateur Stations located on any of the islands. The call-sign format for each licence type is described further below.
- 4.3 Call-signs are issued for the lifetime of the Amateur Station Licensee. The only occasion when a call-sign may change is when an Amateur is moving from a CEPT Class 2 licence to a CEPT Class 1 Licence.
- 4.4 The only exception to the rule that Amateur Station call-signs issue for the lifetime of the Amateur Station Licensee is that a "silent key" call-sign may be transferred to an immediate next of kin of a deceased Amateur Station Licensee. Such a transfer will only be permitted where that the call-sign in question had not lapsed within the lifetime of the deceased Amateur Station Licensee and an application to obtain the call-sign is made within five years<sup>9</sup> of the date of death of the Licensee. "Next of kin" for these purposes means a child, grandchild, sibling, or spouse of a deceased Amateur Station Licensee. Further, a next of kin who applies for such a call-sign must hold a valid Amateur Station Licence or have passed a HAREC exam.
- 4.5 The exceptions to the lifetime duration of Amateur Station Licence call-signs are Visitors Temporary Licences, Additional Authorisations or Special Event Licences. All these types of licences have maximum durations of 12 months and these licences, and the assigned call-signs, expire on the date specified on the licence documents.

### 4.2 CEPT Class 1 and Class 2

- 4.6 ComReg assigns call-signs for CEPT Class 1 and CEPT Class 2 licences sequentially which means that specific call-signs for individual Amateur Station Licensees cannot be requested.
- 4.7 ComReg does not re-issue lapsed call signs.
- 4.8 Where an Amateur Station Licence is surrendered or revoked, the call-sign will not be re-issued

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<sup>9</sup> All files relating to cancelled licences are destroyed after five years in accordance with ComReg's Data Protection Guidelines

- 4.9 CEPT Class 1: Begins with EI or EJ followed by a single digit (i.e., 2-9), one alpha numeric character (i.e., 0-9 or A-Z) and a single letter (A-Z). An example would be EI-2-C1-C2

National	Number	C1	C2
EI or EJ	2 to 9	0-9 or A-Z	A-Z

- 4.10 CEPT Class 2: Begins with EI or EJ followed by a single digit (i.e., 2-9) and three characters (two alphanumeric, C1 and C3 along with a third character (A-Z). An example would be. EI-2- C1-C2-B

National	Number	C1	C2	C3
EI or EJ	2 to 9	0-9 or A-Z	0-9 or A-Z	B

### 4.3 Amateur Station Club Call-sign

- 4.11 Call-signs for Amateur Station Club Licences can be requested by individual clubs and the call-sign format must follow the format that is set by the ITU.
- 4.12 The call-sign begins with EI and then is followed by a single number followed by up to four characters the last of which must be a letter.

National	Number	C1	C2	C3	C4
EI	0 to 9	0-9 or A-Z	0-9 or A-Z	0-9 or A-Z	A-Z

### 4.4 Automatic Stations

National	Band Identification Digit	Location	Last Letter
EI	As below	Two letters uniquely identifying the location of the Automatic Station (see below)	See below

## Band Identification Digit<sup>10</sup>

Band Identification Digit	Application Band
0	28 MHz
1	40 MHz
2	145 MHz
3	Not currently used
4	70 MHz
5	5 MHz
6	50 MHz
7	435 MHz
8	1300 MHz
9	10000 MHz

## Location Examples

Letter	Location	Letter	Location	Letter	Location
TK	Truskmore	FX	Farmers Cross	CC	Clermont Carn
ML	Mount Leinster	TB	Tonabrocky	KH	Keeper Hill
MG	Mullaghanish	TR	Three Rock	KP	Kippure

## Last Letter

Station Type	Letter	Station Type	Letter	Station Type	Letter
Digital Voice	D	Digital Packet	P	Cross Band	X
Internet Gateway	G	Analogue Voice	R		
Beacon	H	TV	T		

## 4.5 Visitors

- 4.13 The CEPT call-sign format for visitors will be EI or EJ followed by a single digit, the character 'V' and two alpha numeric characters: EI-2- V-C2-C3

National	Number	C1	C2	C3
EI or EJ	2 to 9	V	0-9 or A-Z	A-Z

<sup>10</sup> Band Identification Digit applies to the transmit frequency of the Cross Band repeater.

## 4.6 Special Event

- 4.14 The call-sign format for special events will be EI or EJ followed by a single digit, then up to a maximum number of four alphanumeric characters followed by a single character which must be a letter.

National	Number	C1	C2	C3	C4	C5
EI or EJ	0 to 9	0-9 or A-Z	0-9 or A-Z	0-9 or A-Z	0-9 or A-Z	A-Z

## 5 Modes of Operation

- 5.1 There are many modes that a Licensee can operate on, including SSB, FM, PSK, RTTY, and ATV which are permitted as standard on both CEPT Class 1 and CEPT Class 2 licences. No additional authorisation is required to operate on these modes, but the permitted frequency bands specified in Annex 1 must be adhered to.
- 5.2 Full details on permitted modes (i.e., narrowband modes, digimodes etc.) are contained in Annex 1 of this document.

### 5.2 Land Based Mobile Station Operation

- 5.3 An Amateur Mobile Station is one where the Amateur Station is installed in a vehicle. For land-based mobile operation, the call-sign should be suffixed with “/M” (pronounced “slash mobile” on phone). Details of permitted frequencies, bandwidths and power levels can be found in Annex 1 of this document.
- 5.4 The particulars of an Amateur Mobile Station’s location shall be sent at the beginning and end of the establishment of communications with each separate Amateur Station or at intervals of every thirty minutes, whichever is the more frequent.
- 5.5 An Amateur Mobile Station may not be established or used at sea (other than as part of Maritime Mobile Operation) or within any estuary, dock, or harbour or in the vicinity of an airport or radio navigation installation.

### 5.3 Maritime Mobile Station Operation

- 5.6 Licensees who wish to operate an Amateur Mobile Station on water must use Maritime Mobile and the call-sign should be suffixed with “/MM” (pronounced “slash maritime mobile” on phone).
- 5.7 Subject to the approval of the Ships Master and / or owner, Maritime Mobile operation may be permitted on a maritime vessel (boat, ship, dinghy, etc.) and is restricted to the frequencies specified in Annex 1. Please note that in addition to all seas falling within the jurisdiction of the State, use of Amateur Radio equipment on all waterways within the Irish jurisdiction, including all rivers and lakes, also constitutes Maritime Mobile Operation for the purposes of an Amateur Station Licence.



- 5.8 Amateur Station Licensees or Visitors, operating in Irish or in International Waters, are subject to the conditions of their Licences and to all other laws to which the particular vessel, depending upon its location, is subject.
- 5.9 When operating a Maritime Mobile Station, the geographical position of the vessel shall be announced at the beginning and end of the establishment with each separate Amateur Station or at intervals of 30 minutes, whichever is more frequent. This geographical position must be included in the logbook when recording communications (see Section 6).
- 5.10 An Amateur Station shall not be used for the sending or receipt of any message which would, if there were no Amateur Station on the vessel, be sent by means of a vessel's wireless telegraphy station.
- 5.11 An Amateur Station shall not interfere with the wireless telegraphy station on the vessel. Should such interference occur, use of the Amateur Station shall cease until the cause of the interference has been remedied.

## 6 Requirements for Logbook keeping

- 6.1 It is a condition of any Amateur Station Licence that a detailed logbook must be kept and maintained at the Amateur Station. The logbook must be kept up to date and shall be made available for inspection at the request of a duly Authorised Officer.
- 6.2 Each logbook should record the following information:
1. dates of transmission;
  2. the times (in UTC standard time), during each day of the first and last transmissions from the Station and changes made to the frequency band, mode of emission or power;
  3. frequency band of transmission;
  4. mode of transmission;
  5. power level (dBW or W); and
  6. the call-sign of licensed Amateur Stations with which communications have been established.

# Annex 1: Permitted Amateur Station Operational Bands, Bandwidths, Powers, and Modes

- A 1.1 The radio spectrum that can be used by Amateur Stations is specified in Tables 2 and 3 below. All frequency bands and channels have maximum permitted power levels and in some cases there are additional limitations, for example, permitted operational modes, a reduction on power levels for certain modes of operation, etc.
- A 1.2 The frequency bands specified in Tables 2 and 3 below are available for both CEPT Class 1 & CEPT Class 2 Licence types.

## Amateur Station Authorised Frequencies

- A 1.3 ComReg notes that for the Amateur Service there is an element of self-regulation by Amateur Station Licensees, and ComReg's role is to establish regulations and guidelines which reflect ComReg's spectrum management functions and objectives. Therefore, where not specified in Tables 2 and 3, ComReg no longer places any restriction on bandwidths, preferred modes or usage but rather encourages Licensees to take account of any applicable Irish national band plans and/or IARU band plans to ensure equitable usage of the frequency bands by all Licensees and to mitigate any potential interference. This approach by ComReg does not negate a Licensee's requirement to comply with relevant licence conditions, specifically those related to, but not limited to, the efficient use of the spectrum, the prevention of harmful interference, complying with ICNIRP, etc.
- A 1.4 For information, the IARU's Region 1 bandplans are as follows, and may be amended from time to time:
- HF band plan – [https://www.iaru-r1.org/wp-content/uploads/2019/08/hf\\_r1\\_bandplan.pdf](https://www.iaru-r1.org/wp-content/uploads/2019/08/hf_r1_bandplan.pdf);

- VHF band plan – <https://www.iaru-r1.org/wp-content/uploads/2020/12/VHF-Bandplan.pdf>;
- UHF band plan – <https://www.iaru-r1.org/wp-content/uploads/2021/03/UHF-Bandplan.pdf>;
- SHF band plan – <https://www.iaru-r1.org/wp-content/uploads/2020/12/SHF-Bandplan.pdf>; and
- Microwave band plan – <https://www.iaru-r1.org/wp-content/uploads/2020/12/%c2%b5W-Bandplan.pdf>.

**Table 2: HF frequency bands**

Frequency(kHz)	Status of Allocation	Maximum Power	Additional requirements
135.7-137.8	Secondary	1W (0 dBW) e.i.r.p	
472.0-479.0	Secondary	5W (7 dBW) e.i.r.p	In the band 472.0 - 479.0 kHz Stations in the Amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service or stations of the Maritime service. The Amateur service shall ensure that no harmful interference is caused to the frequency 0.490 MHz which is used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships

Frequency(kHz)	Status of Allocation	Maximum Power	Additional requirements
1810-1850	Primary	400W(26 dBW) P.E.P	
1850-2000	Primary	10W (10 dBW) P.E.P	
3500-3800	Primary	400W(26 dBW) P.E.P	Maritime Mobile Permitted (Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW)
5000 –5500 <sup>11</sup>	Secondary	200W (23 dBW) P.E.P  Stations using the frequency band 5351.5-5366.5 kHz shall not exceed a maximum radiated power of 15 W (e.i.r.p.) <sup>12</sup>	Transmission is restricted to the following spot frequencies: 5.280 MHz; 5.300 MHz; 5.332 MHz; 5.348 MHz; 5.400 MHz and 5.405 MHz  Emission Classification: A1A, J3E, G1B  Modes: CW, SSB, PM

<sup>11</sup> 5000 kHz -5500 kHz not identified in the IARU's Region 1 HF band plan, therefore limited modes allowed in this band – [https://www.iaru-r1.org/wp-content/uploads/2019/08/hf\\_r1\\_bandplan.pdf](https://www.iaru-r1.org/wp-content/uploads/2019/08/hf_r1_bandplan.pdf)

<sup>12</sup> See Article 5.133B of the ITU's Radio Regulations.

Frequency(kHz)	Status of Allocation	Maximum Power	Additional requirements
5351.5-5366.5	Secondary	15W (12 dBW) e.i.r.p. <sup>12</sup>	
7000-7100	Primary	400W(26 dBW) P.E.P	Maritime Mobile Permitted. Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW
7100-7200	Primary	400W(26 dBW) P.E.P	Maritime Mobile Permitted (Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW)
10100-10130	Secondary	400W(26 dBW) P.E.P	Morse Only
10130-10150	Secondary	400W(26 dBW) P.E.P	In the band 10130-10150 kHz all narrowband digimodes within the bandwidth limit of 500Hz are permitted. News Bulletins are not permitted within this frequency range. SSB is permitted but only during emergencies involving immediate safety of life and by the stations directly involved in handling emergency traffic.
14000-14350	Primary	400W (26 dBW) P.E.P	Maritime Mobile Permitted. Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW

Frequency(kHz)	Status of Allocation	Maximum Power	Additional requirements
18068-18168	Primary	400W (26 dBW) P.E.P	Maritime Mobile Permitted. Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW
21000-21450	Primary	400W (26 dBW) P.E.P	Maritime Mobile Permitted. Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW
24890-24990	Primary	400W (26 dBW) P.E.P	Maritime Mobile Permitted. Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW
28000-29700	Primary	400W (26 dBW) P.E.P	Maritime Mobile Permitted. Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW

**Table 3: VHF, UHF, SHF and microwave frequency bands**

Frequency (MHz)	Status of Allocation	Maximum Power	Notes
30.000-49.000	Secondary	50W (17 dBW) P.E.P	

Frequency (MHz)	Status of Allocation	Maximum Power	Notes
50.000-52.000	Secondary	100W (20 dBW) P.E.P	
54.000- 69.900	Secondary	50W (17 dBW) P.E.P	
69.900-70.500	Secondary	50W (17 dBW) P.E.P Fixed Operation Only	For Mobile Operation Max Power is 25W (14 dBW) P.E.P
144.000-146.000	Primary	400W (26 dBW) P.E.P	Maritime Mobile Permitted (Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17dBW)
430.000-432.000	Primary	50W (17 dBW) P.E.P	
432.000-440.000	Primary	400W (26 dBW) P.E.P	
1240-1300	Secondary	158W (22 dBW) P.E.P	
2300-2400	Secondary	158W (22 dBW) P.E.P	
5570-5650	Secondary	158W(22 dBW) P.E.P	
5650.00-5850.00	Secondary	158W (22 dBW) P.E.P	



Frequency (MHz)	Status of Allocation	Maximum Power	Notes
10000-10500	Secondary	158W (22dBW) P.E.P	10450-10500 MHz is used for Amateur Satellite Service. (In the Band 10.000-10.500 GHz the Primary allocation is to the Fixed Service and as such Licensees may not use the portion of the band between 10.270-10.300 GHz.)
24000-24050	Primary	50W (17dBW) P.E.P	
47000-47200	Primary	50W (17dBW) P.E.P	
76000-77500	Secondary	50W (17dBW) P.E.P	
77500-78000	Primary	50W (17dBW) P.E.P	
78000-81000	Secondary	50W (17dBW) P.E.P	
134000-136000	Primary	50W (17dBW) P.E.P	
136000-141000	Secondary	50W (17dBW) P.E.P	
241000-248000	Secondary	50W (17dBW) P.E.P	

Frequency (MHz)	Status of Allocation	Maximum Power	Notes
248000-250000	Primary	50W (17dBW) P.E.P	

### Notes:

1. For designation of emission classification please refer to APPENDIX 1 (REV.WRC-19) of the ITU's Radio Regulations.<sup>13</sup>
2. Operation on islands which fall within harbour areas (e.g., Spike Island in Cork harbour) is restricted to 17 dBW P.E.P.
3. All modes: CW (Morse), SSB and those modes listed by the IARU as Centre of Activities. When using AM, particular consideration must be given to adjacent channel users.
4. Narrowband modes: All modes up to a maximum bandwidth of 500 Hz, including CW RTTY, PSK etc.
5. Image mode: Any analogue or digital modes such as SSTV, which remains within the appropriate bandwidths.
6. Digimodes: Any digital mode such as RTTY, PSK etc. within the bandwidths as specified by the IARU.
7. Sideband Modes: The convention for phone operation is that lower sideband (LSB) is used below 10 MHz, and upper sideband (USB) is used above 10 MHz.

<sup>13</sup> Classification of emissions and necessary bandwidths  
<https://search.itu.int/history/HistoryDigitalCollectionDocLibrary/1.44.48.en.102.pdf>

Mobile operation: The Maximum Power at the output of the transmitter or amplifier shall be 17 dBW, with the exceptions of 70.125 - 70.450 MHz where the Maximum Power shall be 14 dBW.

8. Maritime Mobile: The Maximum Power permitted when in maritime mobile mode shall be 10 dBW.

### Additional Bands

A 1.5 An individual application must be submitted to use any of the additional bands below which are for special events or for temporary experimental purposes.

Frequency (MHz)	Status of Allocation	Maximum Power	Emission Classification	Modes	Notes
1300-1304	Secondary	0W (0 dBW) P.E.P	A1A, A2A, A3E,R3E, H3E, J2B,J3E, J2F F1B, F2B, F3E, G1B		Restricted to Repeater Operation Only
2400-2450	Secondary	25W (14 dBW) P.E.P	A1A, A2A, A3E,R3E, H3E, J2B,J3E, J2F F1B, F2B, F3E, G1B	AMSAT	Restricted to Satellite Operation Only

A 1.6 Irish Licensed Amateur Stations may apply for frequencies and powers above those listed for special occasions, see Section 4.6.

## Annex 2: Technical Conditions of the Amateur Station

- A 2.1 This section specifies the general conditions attached to a Licence issued under the Wireless Telegraphy (Amateur Station Licence) Regulations 2009 (S.I. 192 of 2009).
- A 2.2 The Amateur Station licence conditions detail the characteristics of the licensed wireless telegraphy apparatus that need to be considered for the purposes of ensuring that no harmful interference is caused to other licensed services and that the Amateur 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. The conditions do not include detailed equipment specifications.
- A 2.3 Nothing in these technical license conditions shall exempt an Amateur Station licensee from having to obtain such other consents, permissions, authorisations, or licences as may be necessary to possess and operate a licensed Amateur Station.
- A 2.4 The mechanical and electrical construction of the Amateur Station installation shall be in accordance with best practice.
- A 2.5 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.

### Equipment Construction

- A 2.6 The Amateur Station should have all controls, meters, indicators, and terminals clearly labelled. Details of the main and any auxiliary power supply of the wireless telegraphy equipment shall be clearly indicated.
- A 2.7 Licensees shall ensure that home constructed, modified and vintage wireless telegraphy equipment is operated and maintained in such a manner as to minimise the potential for interference to radiocommunication services operating in accordance with the Irish Table of Frequency Allocations which can be found on ComReg's website. Licensees shall have a device capable of measuring Standing Wave Ratio (SWR) and an accurate method to ensure that operations take place on the correct frequency. In the case of 'home constructed' equipment a simple frequency counter or synthesised main receiver/ transceiver would

suffice.

### **Non-Ionising Radiation**

A 2.8 Licensees shall ensure that non-ionising radiation emissions from their Amateur Stations are within the limits specified by the guidelines published by the International Commission for Non-Ionising Radiation Protection (“ICNIRP”).

### **Spurious Emissions**

A 2.9 Out of band domain emission limits for the amateur services are set out in Annex 9 of the ITU’s Recommendation ITU-R SM.1541-6 (08/2015): Unwanted emissions in the out-of-band domain.<sup>14</sup>.

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<sup>14</sup> [https://www.itu.int/dms\\_pubrec/itu-r/rec/sm/R-REC-SM.1541-6-201508-III-PDF-E.pdf](https://www.itu.int/dms_pubrec/itu-r/rec/sm/R-REC-SM.1541-6-201508-III-PDF-E.pdf)

## Power Levels

- A 2.10 All references to Peak Envelope Power (P.E.P) for an Amateur Station 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 for the measurement.
- A 2.11 To determine effective isotropic radiated power (e.i.r.p), the Licensee must at a minimum know the P.E.P (as defined in the paragraph above, in dBw) and the maximum gain of the antenna in use, relative to an isotropic antenna (in dBi). E.i.r.p is determined by adding these two decibel values. An example, a more precise determination and a F.A.Q. given in annex 4.
- A 2.12  $e.i.r.p = P.E.P \text{ (in dBw)} + \text{Gain (in dBi)}$

## Morse code Requirements

- A 2.13 To obtain a CEPT Class 1 licence, both the Radio Theory Exam and the Morse speed test must be passed. The minimum Morse code speed permitted is set out below.

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

## Annex 3: Automatic Station Coordination Procedures

- A 3.1 The IRTS's Repeater Coordinator receives the technical information for a proposed automatic station from the ComReg and creates a coverage map of the proposed station.
- A 3.2 The coverage map is then analysed by the IRTS's repeater co-ordination group to identify any potential for harmful interference with existing stations in close proximity both geographically and in frequency.
- A 3.3 If, after 10 working days of receipt of the application, no technical issues or potential harmful interference has been identified by the IRTS's repeater co-ordination group, the Repeater Coordinator shall notify ComReg of the findings.
- A 3.4 If the IRTS's repeater co-ordination group is of the view that the proposed automatic station should not be coordinated, the Repeater Coordinator shall:
- a) notify ComReg within ten (10) working days of receipt of the application; and
  - b) provide a detailed report to ComReg setting out the IRTS's repeater coordination group's reasoning within ten (10) working days from having notified ComReg under (a).
- A 3.5 Where ComReg does not receive any notification from the Repeater Coordinator (or relevant IRTS member) within ten (10) working days, ComReg will proceed with processing the application for the proposed automatic station.
- A 3.6 Where the IRTS's repeater coordination group is of the view that additional time is required to consider the coordination of an automatic station, the Repeater Coordinator shall submit a request to ComReg for approval to continue the considerations. The request shall be submitted within ten (10) working days of being notified by ComReg of a proposed automatic station. The request shall set out in detail:
- A note of the IRTS's repeater coordination group's discussions of the proposed automatic station;
  - justification for additional time;
  - which other parties would be invited by the IRTS's repeater coordination

group to provide views on the coordination and why; and

- an indicative timeline for the completion of the coordination process.

A 3.7 ComReg shall within 10 day working days inform the Repeater Coordinator of its decision regarding any request from the IRTS's repeater coordination group to extend the period for considering coordination of an automatic station.

A 3.8 In the interest of transparency, ComReg may publish information and any relevant correspondence with the IRTS regarding the coordination of automatic stations. Any such publication would be in line with its Consultation Procedures (see [ComReg Document 11/34](#)) and Guidelines on Treatment of Confidential Information (See [ComReg Document 05/24](#)).



## Annex 4: Guideline: Calculating e.i.r.p

### Minimum Requirement

A 4.1 The maximum possible effective isotropic radiated power (e.i.r.p) is calculated from knowing two parameters:

1. The power from the transmitter or power amplifier into the transmission line between the transmitter and the antenna; and
2. The maximum gain of the antenna in use relative to an isotropic antenna.

A 4.2 Example: The ICOM IC7610 has a rated transmitter power of 100 W. No external power amplifier is used, and coax connects the transceiver to a Hy-Gain model AV-14AVQ vertical antenna that has a 3dBi nominal gain.

A 4.3 To determine effective isotropic radiated power (e.i.r.p) use the following steps:

Convert power in watts to decibels relative to 1 W – that is convert watts to dBW.

$$\begin{aligned} \text{Power in dBW} &= 10 \log_{10} 100 \\ &= 10 \log_{10} 100 \\ &= 20 \text{ dBW} \end{aligned}$$

Calculate e.i.r.p

$$\begin{aligned} \text{e.i.r.p in dBW} &= \text{power} + \text{antenna gain} \\ &= 20 + 3 \\ &= 23 \text{ dBW e.i.r.p} \end{aligned}$$

There is no issue using this equipment in many of the HF amateur bands but, for example, it cannot be used in the band 5351.5 – 5366.5 MHz where the maximum e.i.r.p is limited to 12 dBW e.i.r.p. To meet the requirement without changing the antenna the transmitter power would need to be reduced as follows.

$$\begin{aligned} \text{Maximum transmitter output power} &= \text{limit} - \text{antenna gain} \\ &= 12 - 3 \\ &= 9 \text{ dBW} \end{aligned}$$

$$\begin{aligned} \text{Power in } W &= 10^{\frac{9}{10}} \\ &= 8\text{w} \end{aligned}$$

### With more precision

A 4.1 Greater precision can be obtained by knowing more parameters such as:

1. The power from the transmitter or power amplifier into the transmission line between the transmitter and the antenna;
2. The maximum gain of the antenna in use relative to an isotropic antenna; and
3. any losses from such items as connectors; transmission, etc.

A 4.2 Example: The ICOM IC7610 has a rated transmitter power of 100 W. No external power amplifier is used and coax connects the transceiver to a Hy-Gain model AV-14AVQ vertical antenna that has a 3dBi nominal gain. The coax is RG-213 and is 20 meters long. You have an antenna switch that claims to have a loss of no more than 0.3 dB and some antenna matching circuitry with a loss of 0.4 dB.

A 4.3 The loss of good quality RG-213 is given as 3.3dB per 100 meters – so for our 20 length we expect the attenuation to be 0.66 dB.

A 4.4 To determine effective isotropic radiated power (e.i.r.p) use the following steps:

Convert power in watts to decibels relative to 1 W – that is convert watts to dBW.

$$\begin{aligned} \text{Power in } dbW &= 10 \log_{10} 100 \\ &= 10 \log_{10} 100 \\ &= 20 \text{ dBw} \end{aligned}$$

Calculate e.i.r.p

$$\begin{aligned} e.i.r.p &= \text{power} + \text{antenna gain} - \text{coax loss} - \text{switch loss} - \text{matching loss} \\ &= 20 + 3 - 0.66 - 0.3 - 0.4 \\ &= 21.6 \text{ dBW} \end{aligned}$$