



An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

Permitted Licence Exemptions for Terminals for Satellite Services

Technical Document

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An Coimisiún um Rialáil Cumarsáide
Commission for Communications Regulation

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1. Introduction

1.1 Background

1. The Commission for Communications Regulation (“ComReg”) is the statutory body responsible for the regulation of the electronic communications (telecommunications, radiocommunication and broadcasting networks), postal and premium rate sectors in Ireland in accordance with European Union (“EU”) and Irish law. ComReg also manages Ireland’s radio frequency spectrum (“radio spectrum” or “spectrum”) and national numbering resource.
2. Under the Wireless Telegraphy Act 1926¹ as amended (“the 1926 Act”), all apparatus for wireless telegraphy² (“apparatus”) requires a licence, unless that apparatus has been specifically exempted from licensing under Irish legislation by means of an Exemption Order.
3. This document contains technical requirements for the operation of Terminals for Satellite Services (“TSS”) on a licence-exempt basis in Ireland by S.I. No. 226/2020 - Wireless Telegraphy Act 1926 (Section 3) (Exemption of Terminals for Satellite Services) Order 2020 which was published in June 2020³. The technical requirements set out in this document are informed by relevant ECC⁴ Decisions⁵ which harmonise the exemption from individual licensing and free circulation and use of certain TSS across Europe. The ECC adopted and published those Decisions having publicly consulted upon and received input from a wide range of stakeholders across Europe.⁶
4. The manner in which the radio spectrum is allocated in Ireland is laid down in the “Radio Frequency Plan for Ireland” (ComReg Document 20/58R, as amended).
5. This version:

¹ <http://www.irishstatutebook.ie/eli/1926/act/45/enacted/en/html>

² “apparatus for wireless telegraphy” means apparatus for sending and receiving or for sending only or for receiving only messages, spoken words, music, images, pictures, prints, or other communications, sounds, signs, or signals by wireless telegraphy and includes any part of such apparatus and any article primarily designed for use as part of such apparatus and not capable of being conveniently used for any other purpose.

³ <http://www.irishstatutebook.ie/eli/2020/si/226/made/en/print>

⁴ ECC means the Electronic Communications Committee.

<https://cept.org/ecc/groups/ecc/client/introduction>

⁵ https://www.ecodocdb.dk/document/category/ECC_Decisions?status=ACTIVE

⁶ <https://www.cept.org/ecc/tools-and-services/ecc-public-consultation>

- a. Reflects the withdrawal of ECC Decision (06)02 by ECC Decision (06)03 on 18 November 2022;
- b. Includes three new sections to take account of:
 - i. ECC Decision (00)02;
 - ii. ECC Decision (03)04;
 - iii. ECC Decision (19)04;
 - iv. ECC Decision (21)01; and
 - v. ECC Decision (23)01.
- c. includes a number of editorial changes.

1.2 Terminals for Satellite Services

6. TSS are a type of apparatus used to communicate with a satellite from the Earth (terrestrial, at sea or aeronautical). TSS are used to provide business/consumer communications such as telephony, data, and broadband.
7. TSS differ from Satellite Earth Stations (“SES”)⁷ in that SES are generally larger in size and are also used for backhaul, broadcast feeder links and corporate type communications. TSS are of a smaller size, and can be fixed to rooftops, vehicles and aircraft. Some examples of TSS are, but not limited to, Aircraft satellite terminals, satellite terminals on Mobile Platforms, satellite terminals on Vessels, High E.I.R.P Satellite Terminals and Low E.I.R.P Satellite Terminals.
8. Certain TSS can operate in Ireland on a non-interference and non-protected basis in accordance with the requirements laid down in this document (and any revisions thereof), and by Exemption Order Wireless Telegraphy Act 1926 (Section 3) (Exemption of Terminals for Satellite Services) Order 2020. This means that TSS shall not cause interference to Primary Services, nor shall they claim protection from harmful interference from Primary Services but they can claim protection from other stations of the same of other secondary services to which frequencies are assigned.

⁷ Information regarding ComReg’s licencing scheme for ground based Satellite Earth Stations is available [here](#).

9. The legislation and documentation relevant to TSS are listed in Chapter 3 of this document.

1.3 Radio Equipment Compliance and Requirements

10. The Radio Equipment (RE) Directive⁸ ensures a single market for radio equipment by setting essential requirements for safety and health, electromagnetic compatibility, and the efficient use of the radio spectrum. It applies to all products using the radio frequency spectrum. The RE Directive was transposed into Irish Law as S.I. No. 248/2017 - European Union (Radio Equipment) Regulations 2017.⁹
11. All radio and telecommunications terminal equipment must comply with the essential requirements and other relevant provisions of S.I. No. 248/2017 before being placed on the market or put into service in Ireland. In terms of the usage of terminals in the satellite service in Ireland, such radio equipment must operate in accordance with the relevant technical requirements laid down in these documents.

1.4 Harmonised standards

12. A list of harmonised standards under the RE Directive is published in the Official Journal of the European Union (“OJEU”) and is published electronically on the European Commission website¹⁰. The OJEU maintains the list of harmonised standards and defines which parts and which versions are in force. Conformity to the harmonised standards which are in force at the time of putting into service is recommended. Users are advised to refer to the latest publication of the OJEU for information on current harmonised standards.
13. Where standards are contained in Irish Regulations, these refer to the standards in force at the time of writing of those Regulations. If a standard is superseded this should be read as referring to the relevant successor or most up-to-date revision of that standard.

⁸ Directive 2014/53/EU, https://ec.europa.eu/growth/sectors/electrical-engineering/red-directive_en

⁹ <http://www.irishstatutebook.ie/eli/2017/si/248/made/en/print>

¹⁰ https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/red_en

1.5 Classifications for radio and telecommunications terminal equipment

14. Commission Decision 2000/299/EC¹¹ established classifications for radio and telecommunications terminal equipment. Radio and telecommunications terminal equipment which can be placed on the market and put into service without restrictions has been designated as Class 1. A list of Class 1 radio and telecommunications terminal equipment is maintained on the CEPT website.¹² Radio equipment which has restrictions placed on it in terms of either placing on the market or putting into service is designated as Class 2 equipment and should accordingly be marked with the alert symbol.

1.6 Further information

15. ComReg may, from time to time, introduce additional requirements where necessary for the purposes of ensuring the effective and efficient use of the radio spectrum. Such additional requirements may be necessitated by, inter alia, changes to spectrum allocations and/or technological developments. ComReg reserves the right to amend interface requirements where necessary and this document is therefore subject to revision.

16. Web addresses referenced throughout this document are for convenience only. Please note that ComReg is not responsible for the content of external websites.

17. The information in this document is made available by ComReg on the understanding that it is for information purposes only. It is not intended to form the basis of any investment decision and should not be considered as a recommendation by the Commissioners or their advisors to participate in any tender for the allocation of radio spectrum.

18. ComReg makes no representation or warranty nor accepts any responsibility as to the accuracy or completeness of the information contained in this document and any liability in respect of any such information or any inaccuracy in, or omission from this document is hereby expressly disclaimed.

¹¹ <http://www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:097:0013:0014:EN:PDF>

¹² [http://www.cept.org/ecc/topics/short-range-device-regulations-and-indicative-list-of-equipment-sub-classes-in-accordance-with-the-rtte-directive-\(19995ec\)](http://www.cept.org/ecc/topics/short-range-device-regulations-and-indicative-list-of-equipment-sub-classes-in-accordance-with-the-rtte-directive-(19995ec))

2. Technical Requirements for Licence Exemption of TSS

19. The technical requirements set out in this document are informed by relevant ECC¹³ Decisions which harmonise the exemption from individual licensing and free circulation and use of certain TSS across Europe.
20. ComReg considers that the risk of harmful interference between incumbent users and the TSS set out in this document to be negligible. Other ECC Decisions in regard to fixed earth stations may be considered for implementation on an individual authorisation basis under an appropriate licensing scheme.

¹³The Electronic Communications Committee (“ECC”) develops common policies and regulations in electronic communications for Europe and is a focal point for information on spectrum use.

2.1 Aircraft satellite terminals

These technical requirements are based on ECC Decision (05)11¹⁴

Aircraft satellite terminals can operate in the frequency bands listed in table 1 on a licence-exempt basis provided that:

- a) the apparatus¹⁵:
 - a. complies with the requirements set out in the relevant harmonised standards in table 1 below;
 - b. complies with the relevant requirements in the ITU's Radio Regulations;
 - c. does not transmit with an e.i.r.p greater than 50 dBW; and
 - d. operates under the control of a network control facility¹⁶.
- b) the aircraft satellite terminal network operator has, prior to operating, provided the European Communications Office¹⁷ with the information specified in Annex 1 of ECC Decision (05)11.

Table 1

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
AES	EN 302-186	14.0 – 14.5 GHz (E - s ¹⁹)
	ITU-R M.1643 ¹⁸	10.7 – 11.7 GHz (s - E ²⁰)
		12.5 – 12.75 GHz (s - E)

¹⁴ECC Decision (05)11 - The free circulation and use of Aircraft Earth Stations (AES) in the frequency bands 14.0-14.5 GHz (Earth-to-space), 10.7-11.7 GHz (space-to-Earth) and 12.5-12.75 GHz (space-to-Earth).

¹⁵ "Apparatus" means apparatus for wireless telegraphy as defined in section 2 of the Wireless Telegraphy Act 1926 for terrestrial systems.

¹⁶ "Network Control Facility" means a central monitoring and management facility for the satellite communications link between the land segment and the airborne segment.

¹⁷ <https://www.cept.org/eco>

¹⁸including the essential requirements in Part B and Part C of Annex 1 in regard to the protection of the fixed service and sharing of the radio astronomy service.

¹⁹ Earth to space

²⁰ Space to Earth

2.2 Satellite terminals on board vessels operating in fixed satellite service networks

These technical requirements are based on ECC Decision (05)10²¹

Satellite terminals on board vessels can operate in the frequency bands listed in table 2 on a licence-exempt basis provided that:

- a) the apparatus:
 - a. complies with the technical requirements in Annex 2 of Resolution 902 (WRC-03);
 - b. complies with the requirements set out in the harmonised standards as set out in table 2 below;
 - c. operates in compliance with the relevant requirements as set out in the ITU's Radio Regulations;
 - d. has an antenna size 0.6m or larger;
 - e. does **not** operate within a 12 nautical mile radius of Dublin port. (If operation is required within this area a licence to do so is required²²); and
 - f. operates under the control of a network control facility.

Table 2

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
Satellite terminals on board vessels	EN 302 340	14.0 – 14.5 GHz (E - s)
		10.7 – 11.7 GHz (s - E)
		12.5 – 12.75 GHz (s - E)

²¹ECC DECISION (05)10 - The free circulation and use of Earth Stations on board Vessels operating in fixed satellite service networks in the frequency bands 14-14.5 GHz

²²Information on ComReg's Satellite Licensing Scheme can be found [here](#)

2.3 High E.I.R.P. Satellite Terminal (“HEST”) operating with geostationary satellites

These technical requirements are based on ECC Decision (06)03²³

High E.I.R.P satellite terminals (“HEST”) can operate in the frequency bands listed in table 3 on a licence-exempt basis provided that:

- a) the apparatus:
 - a. complies with the aircraft High Intensity Radiated Field protection criteria based on ECC Report 272, using maximum High Intensity Radiated Field (“HIRF”) field strengths of 190 V/m in 14.00-14.25 GHz and 150 V/m in 29.50-30.00 GHz;
 - b. complies with the relevant requirements as set out in the ITU’s Radio Regulations;
 - c. complies with the requirements set out in the harmonised standards as set out in table 3 below;
 - d. operates under the control of a network control facility;
 - e. operates with geostationary satellites as part of the fixed satellite service (FSS) within the frequency bands 10.70-12.75 GHz or 19.7-20.2 GHz (space-to-Earth) and 14.00-14.25 GHz or 29.50-30.00 GHz (Earth-to-space), and the broadcasting satellite service (BSS) within the frequency bands 11.70-12.50 GHz (space-to-Earth) under the control of the satellite system, providing digital communications; and
 - f. does not transmit with an e.i.r.p. greater than 60 dBW (The maximum e.i.r.p. of HEST operating within TDMA networks shall be respected after taking into consideration the duty cycle (see section 3.3 and 3.4 of ECC Report 272))
 - i. When an antenna is coupled to more than one transmitter or a transmitter provides more than one carrier (multi-carrier operation), the above e.i.r.p. level is the sum of all simultaneous emissions from the antenna on the main lobe.

Table 3

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
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²³ECC DECISION (06)03 - Exemption from Individual Licensing of high e.i.r.p. satellite terminals (HEST) operating within the frequency bands 10.70-12.75 GHz or 19.70-20.20 GHz space-to-Earth and 14.00-14.25 GHz or 29.50-30.00 GHz Earth-to-space

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
HEST	EN 301-459	10.70-12.75GHz (s – E) 29.50-30.00GHz (E – s)
	EN 301-459	19.70-20.20GHz (s – E) 29.50-30.00GHz (E – s)
	EN 301-428	12.5-12.75GHz (s – E) 14.00-14.25GHz (E – s)

2.4 Transmit only mobile satellite terminals operating in the 1613.8 - 1626.5 MHz band

These technical requirements are based on ECC Decision (09)04²⁴.

Non-Voice transmit-only mobile satellite terminals can operate in the 1613.8 - 1626.5 MHz band on a licence-exempt basis provided that:

- a) the apparatus:
 - a. complies with the requirements laid down in the harmonised standards as set out in table 4 below;
 - b. complies with the relevant requirements as set out in the ITU's Radio Regulations;
 - c. does not transmit with an e.i.r.p greater than 30 dBm and operates in accordance with the provisions of ITU RR 5.364;
 - d. does not exceed a maximum duty cycle of 1%; and
 - e. does not exceed the level of unwanted emissions as specified in Table 1 to Annex 1 of ITU-R Recommendation M. 1343-1.

Table 4

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
Transmit only mobile satellite terminals	EN 301 426	1613.8 – 1626.5 MHz (E – s)
	EN 301 441	1613.8 – 1626.5 MHz (E – s)
	EN 301 473	1613.8 – 1626.5 MHz (E – s)

²⁴ECC DECISION (09)04 – Exemption from individual licensing and the free circulation and use of transmit only mobile satellite terminals operating in the Mobile Satellite Service allocations in the 1613.8 - 1626.5 MHz band

2.5 Satellite terminals on Mobile Platforms

These technical requirements are based on ECC Decision (13)01²⁵

Satellite terminals on mobile platforms operating in **geostationary** satellite systems can operate on a licence-exempt basis provided that:

- a) the apparatus:
 - a. complies with the requirements laid down in the harmonised standard as set out in table 5 below;
 - b. complies with the relevant requirements as set out in the ITU's Radio Regulations;
 - c. complies with the requirements in Annex 1 Of ECC/DEC/(13)01;
 - d. operate in the frequency bands as set out in table 5 below;
 - e. operating in international waters or international airspace (which may transmit within the range 27.5-30.0 GHz), shall ensure protection of fixed service systems in the CEPT; and
 - f. transmitting in the band 27.5-29.5 GHz complies with the requirements in Annexes 1, 2, and 3 of ECC/DEC/(13)01.

Satellite terminals on mobile platforms are **not permitted** to operate within a 12 nautical mile radius of Dublin port. If operation is required within this area a licence to do so is required²⁶.

Table 5

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
Satellite terminals on mobile platforms	EN 303 978	17.3 – 20.2 GHz (s – E)
		27.5 – 30 GHz (E – s)

²⁵ECC DECISION (13)01 - The harmonised use, free circulation and exemption from individual licensing of Earth Stations On Mobile Platforms (ESOMPs) within the frequency bands 17.3-20.2 GHz and 27.5-30.0 GHz

²⁶Information on ComReg's Satellite Licensing Scheme can be found [here](#)

2.6 Satellite terminals on mobile platforms - NGSO FSS satellites

These technical requirements are based on ECC Decision (15)04²⁷

Satellite terminals on mobile platforms operating in non-geostationary satellite systems can operate on a licence-exempt basis provided that:

- a) the apparatus:
 - a. complies with the requirements laid down in the harmonised standard as set out in table 7 below;
 - b. complies with the relevant requirements as set out in the ITU's Radio Regulations;
 - c. complies with the requirements in Annexes 1, 2 and 3 of ECC/DEC/(15)04; and
 - d. operates in the frequency bands listed in table 6.

Satellite terminals on mobile platforms are **not permitted** to operate within a 12 nautical mile radius of Dublin port. If operation is required within this area, a licence to do so is required²⁸.

Table 6

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
Satellite terminals on mobile platforms	EN 303 979	17.3 – 20.2 GHz (s - E)
		27.5 – 29.1 GHz (E- s)
		29.5 – 30 GHz (E- s)

²⁷ECC DECISION (15)04 - The harmonised use, free circulation and exemption from individual licensing of Land and Maritime Earth Stations On Mobile Platforms (ESOMPs) operating with NGSO FSS satellite systems in the frequency ranges 17.3-20.2 GHz, 27.5-29.1 GHz and 29.5-30.0 GHz

²⁸Information on ComReg's Satellite Licensing Scheme can be found [here](#)

2.7 Satellite terminals in-motion operating with GSO FSS satellite systems in the 10.7-12.75 GHz and 14.0-14.5 GHz frequency bands

These technical requirements are based on ECC Decision (18)04²⁹

Satellite terminals in-motion operating in geostationary fixed satellite systems can operate on a licence-exempt basis provided that:

- a) the apparatus:
 - a. complies with the requirements laid down in the harmonised standards as set out in table 7 below;
 - b. complies with the relevant requirements as set out in the ITU's Radio Regulations;
 - c. comply with the requirements in Annex 3 of ECC/DEC/(18)04;
 - d. operates within protection zones for fixed service stations using the methodology as set out in Annex 1 of ECC/DEC/(18)04;
 - e. operates within protection zones for radio astronomy service stations using the methodology as set out in Annex 2 of ECC/DEC/(18)04;
 - f. does not transmit with an e.i.r.p. greater than 54.5 dBW; and
 - g. operates in the frequency bands listed in table 7.

Table 7

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
Satellite terminals in-motion	EN 302 977	10.7 – 12.75 GHz (s – E)
	EN 302 448	14.0 – 14.5 GHz (E – s)
	EN 303 980	

²⁹ECC DECISION (18)04 - The harmonised use, exemption from individual licensing and free circulation and use of land based Earth Stations In-Motion (ESIM) operating with GSO FSS satellite systems in the frequency bands 10.7-12.75 GHz and 14.0-14.5 GHz

2.8 Satellite terminals in-motion operating with NGSO FSS satellite systems in 10.7-12.75 GHz and 14.0-14.5 GHz the frequency bands

These technical requirements are based on ECC Decision (18)05³⁰

Satellite terminals in-motion in non-geostationary satellite systems can operate on a licence-exempt basis provided that:

- a) The apparatus:
 - a. complies with the requirements laid down in the harmonised standards as set out in table 8 below;
 - b. complies with the requirements in Annex 1 and 2 of ECC/DEC/(18)05;
 - c. complies with the relevant requirements as set out in the ITU's Radio Regulations;
 - d. does not transmit with e.i.r.p. greater than 54.5 dBW. (When an antenna is coupled to more than one transmitter or a transmitter provides more than one carrier (multi-carrier operation), the 54.5 dBW e.i.r.p. level is the sum of all simultaneous emissions from the antenna on the main lobe); and
 - e. Operates in the frequency bands listed in table 8.

Table 8

Terminal Type	Harmonised Standard/ITU Recommendation	Frequency Bands
Satellite terminals in-motion	EN 302 977	10.7 – 12.75 GHz (s – E)
	EN 302 448	14.0 – 14.5 GHz (E – s)
	EN 303 980	
	EN 303 981	

³⁰ECC DECISION (18)05 - The harmonised use, exemption from individual licensing and free circulation and use of Earth Stations In-Motion (ESIM) operating with NGSO FSS satellite systems in the frequency bands 10.7-12.75 GHz and 14.0-14.5 GHz

2.9 Mobile satellite terminals operating under the control of networks

These technical requirements are based on ECC Decision (12)01³¹

Mobile satellite terminals operating under the control of a network can operate on a licence-exempt basis provided that:

- a) The apparatus:
 - a. operates in the frequency bands as set out in table 9 below;
 - b. complies with the relevant requirements as set out in table 9 below;
 - c. complies with the relevant requirements as set out in the ITU's Radio Regulations;
 - d. operates, within the 1610.6-1613.8 MHz band, in accordance with Recommendations ITU-R RA.769-2 and ITU-R RA.1513 the SPFD-level at radio astronomy stations is limited to -238 dB(W/m²Hz) and the data loss resulting from exceeding this limit is $\leq 2\%$ in one or more 20 kHz channels within the 1610.6-1613.8 MHz band at the location of a radio astronomy station from the corresponding MSS system using downlinks in the frequency band 1613.8-1626.5 MHz (space-to-Earth);
 - e. does not, in the band 1610-1626.5 MHz, transmit within a radius calculated on the basis of Figure 1 in the Annex to ECC Decision (09)02 around each radio astronomy station operating in the frequency band 1610.6-1613.8 MHz while taking due account of the shielding effects of the terrain at the relevant radio astronomy site; and
 - f. does not transmit with an e.i.r.p. greater than 50 dBW.

Table 9

Frequency Band	System	ERC/ECC Decision and/or ITU RR reference
1518-1525 MHz	MSS space-to-Earth	Res.225 (Rev.WRC-12) ECC Decision (04)09

³¹ECC DECISION (12)01 - Exemption from individual licensing and free circulation and use of terrestrial and satellite mobile terminals operating under the control of networks

Frequency Band	System	ERC/ECC Decision and/or ITU RR reference
1525-1544 MHz	MSS space-to-Earth	Res.225 (Rev.WRC-12)
1545-1559 MHz	MSS space-to-Earth	Res.225 (Rev.WRC-12)
1610-1626.5 MHz 1613.8-1626.5 MHz	MSS Earth-to-space space-to-Earth (secondary)	Res.225 (Rev.WRC-12) ECC/DEC/(09)02
1626.5-1645.5 MHz	MSS Earth-to-space	Res.225 (Rev.WRC-12)
1646.5-1660.5 MHz	MSS Earth-to-space	Res.225 (Rev.WRC-12)
1670-1675 MHz	MSS Earth-to-space	Res.225 (Rev.WRC-12) ECC Decision (04)09
2483.5-2500 MHz	MSS space-to-Earth	Res.225 (Rev.WRC-12) ECC/DEC/(09)02

2.10 Fixed satellite terminals operating with NGSO FSS satellite systems in the frequency bands 10.7-12.75 GHz and 14.0-14.5 GHz

These technical requirements are based on ECC/DEC/(17)04³²

Fixed satellite terminals operating with non-geostationary satellite systems can operate on a licence-exempt basis provided that:

- a) The apparatus:
 - a. complies with the requirements set out in the harmonised standards as set out in table 10 below;
 - b. they comply with the following requirements that ensure compliance with aircraft High Intensity Radiated Field (“HIRF”) protection criteria based on ECC Report 272, using maximum HIRF field strengths of 190 V/m in 14.00-14.5 GHz:
 - i. The maximum e.i.r.p. of satellite terminals shall be limited to 60 dBW;
 - ii. The maximum e.i.r.p. of satellite terminals operating within TDMA networks shall be respected after taking into consideration the duty cycle (see section 3.3 and 3.4 of ECC Report 272);
 - iii. When an antenna is coupled to more than one transmitter or a transmitter provides more than one carrier (multi-carrier operation), the above e.i.r.p. level is the sum of all simultaneous emissions from the antenna on the main lobe.
 - c. complies with the relevant requirements as set out in the ITU’s Radio Regulations;
 - d. operates under the control of a network control facility;
 - e. operates in the frequency bands listed in table 10; and
 - f. immediately inhibits transmissions when it detects that unintended satellite tracking has occurred or is about to occur.

Table 10

Terminal Type	Harmonised Standard/ITU	Frequency Bands
---------------	-------------------------	-----------------

³² ECC/DEC/(17)04 - The harmonised use and exemption from individual licensing of fixed earth stations operating with NGSO FSS satellite systems in the frequency bands 10.7-12.75 GHz and 14.0-14.5 GHz

	Recommendation	
Fixed Earth Terminals	EN 303 980	10.7 – 12.75 GHz (s – E)
	EN 303 981	14.0 – 14.5 GHz (E – s)

2.11 Uncoordinated Satellite Terminals (27.5 – 29.5 GHz)

These technical requirements are based on ECC/DEC/(05)01³³

Uncoordinated satellite terminals can operate on a licence-exempt basis provided that:

- a) the apparatus:
 - a. complies with the relevant requirements laid down in the ITU Radio Regulations;
 - b. complies with aircraft High Intensity Radiated Field (“HIRF”) protection criteria based on ECC Report 272, using a maximum HIRF field strength of 150 V/m;
 - c. has an off axis³⁴ e.i.r.p. density radiated limited to -35 dBW/MHz in the bands 27.8285-28.4445 GHz and 28.8365-29.4525 GHz. This limit shall in any case be met at 3° or less above the local horizontal plane;
 - d. has an elevation angle higher than 3°;
 - e. has Automatic Power Control implemented i and/or automatic on-board satellite gain control;
 - f. does not occupy band edges closer than 10 MHz from the edges of the bands 27.8285-28.4445 GHz and 28.8365-29.4525-29.5 GHz;
 - g. operates in the frequency bands listed in table 10; and
 - h. does not transmit with an e.i.r.p. greater than 60 dBW.

Table 11

Terminal Type	Frequency Bands
Uncoordinated Satellite Terminals	27.5000-27.8285 GHz (E-s) 28.4445-28.9485 GHz (E-s) 29.4525-29.5 GHz (E-s)

³³ ECC/DEC/(05)01 – The use of the band 27.5-29.5 GHz by the Fixed Service and uncoordinated Earth stations of the Fixed-Satellite Service (Earth-to-space)

³⁴ Off axis refers to angles greater than 7° from the axis of the main beam or to angles greater than the declared minimum elevation angle of the uncoordinated FSS Earth station, whichever is lower.

2.12 Uncoordinated Satellite Terminals (space-to-Earth) (17.7-19.7 GHz)

These technical requirements are based on ECC/DEC/(00)07³⁵

Uncoordinated satellite terminals can operate on a licence-exempt basis provided that:

- a) The apparatus:
 - a. operates in the frequency bands as set out in table 13 below;
 - b. implements the mitigation techniques described in Annex 2 of ECC/DEC/(00)07; and
 - c. complies with the relevant requirements laid down in the ITU Radio Regulations.

Table 13

Terminal Type	Frequency Bands
Uncoordinated Satellite Terminals	17.7-19.7 GHz (s-E)

³⁵ ECC/DEC/(00)07 – The shared use of the band 17.7-19.7 GHz by the fixed service and earth stations of the fixed-satellite service (space-to-Earth)

2.13 Satellite Personal Communication Systems < 1 GHz

These technical requirements apply to non-voice, non-geostationary MSS systems operating in the bands below 1 GHz, subject to the conditions specified in the Radio Regulations³⁶ and ERC/DEC/(99)06³⁷

Satellite Personal Communication Systems operating in bands below 1 GHz (S-PCS < 1GHz) can operate on a licence-exempt basis provided that:

- a) The Satellite Personal Communication Systems:
 - a. are listed in Annex 1 of ERC/DEC/(99)06
 - b. meet the milestone criteria given in Annex 3 of ERC/DEC/(99)06;
 - c. operate within the frequency bands and under the technical and operational constraints set out in Annex 2 of ERC/DEC/(99)06; and
 - d. fulfil all requirements as set out in ERC/DEC/(99)06.

³⁶ ITU Radio Regulations - <https://www.itu.int/pub/R-REG-RR>

³⁷ ERC/DEC/(99)06 - ERC Decision of 10 March 1999 on the harmonised introduction of satellite personal communication systems operating in the bands below 1 GHz (S-PCS<1GHz)

2.14 Fixed-satellite service (Earth-to-space) in the 48.2-50.2 GHz band

These technical requirements are based on ECC/DEC/(21)01³⁸

Uncoordinated satellite terminals can operate in the 48.2-50.2 GHz band (Earth-to-space) on a licence-exempt basis provided that:

- a) The apparatus:
 - a. Does not cause harmful interference to radio astronomy stations within the 48.2-50.2 GHz band;
 - b. Does not transmit with an e.i.r.p. greater than 50 dBW; and
 - c. complies with the relevant requirements as set out in the ITU Radio Regulations.

³⁸ ECC/DEC/(21)01 – The use of the bands 47.2-50.2 GHz and 50.4-52.4 GHz by the fixed-satellite service (Earth-to-space)

2.15 Use of the band 40.5-42.5 GHz by satellite terminals in the fixed-satellite service (space-to-Earth) and broadcasting-satellite service

These technical requirements are based on ECC/DEC/(23)01³⁹

Uncoordinated satellite terminals can operate in the 40.5-42.5 GHz band (Space-to-earth) on a licence-exempt basis provided that:

- a) The apparatus complies with the relevant requirements as set out in the ITU Radio Regulations.

³⁹ ECC/DEC/(23)01 – On the use of the band 40.5-42.5 GHz by earth stations in the fixed-satellite service (space-to-Earth) and broadcasting-satellite service and on the use of the band 42.5-43.5 GHz by earth stations in the fixed-satellite service (Earth-to-space)

2.16 Use of the band 37.5-39.5 GHz by satellite terminals of the fixed-satellite service (space-to-Earth) and use of the band 39.5-40.5 GHz by satellite terminals of the fixed-satellite service and the mobile-satellite service (space-to-Earth)

These technical requirements are based on ECC/DEC/(00)02⁴⁰

Uncoordinated fixed satellite terminals can operate in the 37.5-40.5 GHz band and uncoordinated MSS satellite terminals can operate in the 39.5-40.5 GHz band on a licence-exempt basis provided that:

- a) The apparatus complies with the relevant requirements as set out in the ITU Radio Regulations.

⁴⁰ ECC/DEC/(00)02 – Use of the band 37.5-39.5 GHz by the fixed service and by earth stations of the fixed-satellite service (space-to-Earth) and use of the band 39.5-40.5 GHz by earth stations of the fixed-satellite service and the mobile-satellite service (space-to-Earth)

2.17 Very Small Aperture Terminals operating in the frequency bands 14.25-14.50 GHz Earth-to-space and 10.70-11.70 GHz space-to-Earth

These technical requirements are based on ECC/DEC/(03)04⁴¹

2.18 Very Small Aperture Terminals can operate in the frequency bands 14.25-14.50 GHz (Earth-to-space) and 10.70-11.70 GHz (space-to-Earth) on a licence-exempt basis provided that:

- a) The apparatus:
 - a. complies with the relevant requirements as set out in the ITU Radio Regulations;
 - b. complies with the harmonised European Standard EN 301 428;
 - c. has a maximum antenna diameter of 3.8m;
 - d. complies with the aircraft HIRF protection criteria based on ECC Report 272, using maximum HIRF field strength of 190 V/m in 14.25 GHz to 14.5 GHz; and
 - e. has a maximum e.i.r.p. of 50 dBW.

⁴¹ ECC/DEC/(03)04 – Exemption from Individual Licensing of Very Small Aperture Terminals (VSAT) operating in the frequency bands 14.25-14.50 GHz Earth-to-space and 10.70-11.70 GHz space-to-Earth

2.18 Terminals on-board aircraft operating with GSO FSS networks and NGSO FSS systems in the frequency bands 12.75-13.25 GHz (Earth-to-space) and 10.7-12.75 GHz (space-to-Earth)

These technical requirements are based on ECC/DEC/(19)04⁴²

2.18 Terminals on-board aircraft operating with GSO FSS networks and NGSO FSS Systems can operate in the frequency bands 12.75-13.25 GHz (Earth-to-space) and 10.7-12.75 GHz (space-to-Earth) on a licence-exempt basis provided that:

- b) The apparatus:
- a. complies with the relevant requirements as set out in the ITU Radio Regulations;
 - b. operates under the control of a network control facility;
 - c. using closed-loop tracking of the satellite signal shall employ an algorithm that is resistant to capturing and tracking signals from nearby satellite. The apparatus shall immediately cease transmissions when they detect that unintended satellite tracking has happened or is about to happen;
 - d. shall be self-monitoring and should a fault which could cause harmful interference to the fixed service and/or unacceptable interference to other GSO FSS networks and NGSO FSS systems be detected, the earth stations on-board aircraft must automatically cease its transmissions;
 - e. complies with the harmonised European Standards ETSI EN 302 186 for GSO FSS networks and ETSI EN 303 984 for NGSO FSS systems;
 - f. has a maximum e.i.r.p. of 50 dBW; and
 - g. meets the following PFD values:

$$-123.5 \text{ dB (W/(m}^2 \cdot \text{MHz)) for } \theta \leq 5^\circ$$

$$-128.5 + \theta \text{ dB (W/(m}^2 \cdot \text{MHz)) for } 5 < \theta \leq 40^\circ$$

$$-88.5 \text{ dB (W/(m}^2 \cdot \text{MHz)) for } 40 < \theta \leq 90^\circ$$

⁴² ECC/DEC/(19)04 – The harmonised use of spectrum, free circulation and use of earth stations on-board aircraft operating with GSO FSS networks and NGSO FSS systems in the frequency bands 12.75-13.25 GHz (Earth-to-space) and 10.7-12.75 GHz (space-to-Earth)

where θ is the angle of arrival above the horizontal plane at the fixed service station location

Annex: 1 Relevant Legal Framework

A 1.1 The Communications Regulation Act 2002 (as amended) (the “2002 Act”), the European Electronic Communications Code (which has repealed the EU Common Regulatory Framework, namely the Framework and Authorisation Directives)⁴³, as transposed by S.I. No. 444 of 2022, the European Union (Electronic Communications Code) Regulations 2022 (the “ECC Regulations”) and the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 (the “2023 Act”), and the Wireless Telegraphy Acts 1926 to 2009⁴⁴ set out, amongst other things, ComReg’s functions and objectives that are relevant to the management of the radio frequency spectrum in Ireland and to this Response to Consultation and Decision document including Regulations.

A 1.2 Apart from licensing and making regulations in relation to licences, ComReg’s functions include the management of Ireland’s radio frequency spectrum in accordance with ministerial Policy Directions under Section 13 of the 2002 Act, having regard to its objectives under Section 12 of the 2002 Act, and Regulation 4 of S.I. No. 444 of 2022.

A 1.3 This annex is intended as a general guide as to ComReg’s role in this area, and not as a definitive or exhaustive legal exposition of that role. Further, this annex restricts itself to consideration of those functions, objectives powers, and duties of ComReg that appear most relevant to the matters at hand and generally excludes those not considered relevant (for example, in relation to postal services, premium rate services or market analysis). For the avoidance of doubt, however, the inclusion of particular material in this annex does not necessarily mean that ComReg considers same to be of specific relevance to the matters at hand. All references in this annex to enactments are to the enactment as amended at the date hereof, unless the context otherwise requires.

The European Electronic Communications Code

A 1.4 On 20 December 2018, Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (“EECC”) entered into force.

⁴³ Directive 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code.

⁴⁴ The Wireless Telegraphy Acts 1926 to 1988 and Sections 181 (1) to (7) and (9) and Section 182 of the Broadcasting Act 2009.

A 1.5 It is important to note that further to Article 125 (“Repeal”) of the EECC, with effect from 21 December 2020, the EECC replaced the EU Common Regulatory Framework adopted in 2002 (and amended in 2009) under which ComReg has regulated electronic communications since 2003⁴⁵.

A 1.6 With some limited exceptions (see Article 124 of the EECC), Member States had until 21 December 2020 to transpose the EECC into national law⁴⁶. The statutory instrument transposing key provisions of the EECC has been published as S.I. No. 444 of 2022⁴⁷ and has been commenced by the Minister⁴⁸. Other provisions of the EECC have been transposed in the Communications Regulation and Digital Hub Agency (Amendment) Act 2023, which has also been commenced⁴⁹.

A 1.7 All references in this annex to enactments are to the enactment as amended at the date hereof unless the context otherwise requires.

Primary Functions and Objectives and Regulatory Principles under the 2002 Act and EECC as transposed.

A 1.8 ComReg’s relevant functions pursuant to Section 10 of the Communications Regulation Act 2002, as amended, include the management of the radio frequency spectrum and the national numbering resource. ComReg’s primary objectives in carrying out its statutory functions in the context of electronic communications are to:

- ensure the efficient management and use of the radio frequency spectrum in Ireland in accordance with a direction under section 13 of the 2002 Act;
- Promote competition⁵⁰;
- Contribute to the development of the internal market⁵¹; and
- Promote the interests of users within the Community⁵².

⁴⁵ For the correlation table between relevant articles of the repealed Directives and the EECC, please see Annex XIII of the EECC available here- [EUR-Lex - 02018L1972-20181217 - EN - EUR-Lex \(europa.eu\)](#)

⁴⁶ With the exception of Articles 53(2), (3) and (4), and Article 54 (See Article 124).

⁴⁷ S.I. No. 444 of 2022, The European Union (Electronic Communications Code) Regulations 2022.

⁴⁸ By virtue of S.I. No. 300 of 2023, the European Union (Electronic Communications Code) (Amendment) Regulations 2023.

⁴⁹ By virtue of S.I. No. 299 of 2023, the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 (Commencement) (No.2) Order 2023.

⁵⁰ Section 12 (1)(a)(i) of the 2002 Act.

⁵¹ Section 12 (1)(a)(ii) of the 2002 Act.

A 1.9 ComReg, in carrying out its regulatory tasks specified in S.I. No. 444, shall take all reasonable measures which are necessary and proportionate for achieving the objectives set out in Regulation 4(3), including the objective to promote connectivity and access to, and take-up of, very high-capacity networks, including fixed, mobile and wireless networks, by all consumers and businesses in the State⁵³.

Management of radio spectrum

A 1.10 Regulation 27 of S.I. No. 444 of 2022 governs the management of radio spectrum. Regulation 27(1) requires that ComReg, subject to any directions issued by the Minister pursuant to Section 13 of the 2002 Act and having regard to its objectives under Section 12 of the 2002 Act, Regulation 4 of S.I. No. 444 of 2022, and Article 4 of the Directive, ensure:

- (a) the effective management of radio frequencies for ECN and ECS;
- (b) that the allocation of, the issuing of general authorisations in respect of, and the granting of individual rights of use for radio spectrum for ECN and ECS are based on objective, transparent, pro-competitive, non-discriminatory and proportionate criteria; and
- (c) ensure that harmonisation of the use of radio frequency spectrum by ECN and ECS across the EU is promoted, consistent with the need to ensure its effective and efficient use and in pursuit of benefits for the consumer such as competition, economies of scale and interoperability of networks and services, having regard to all decisions and measures adopted by the European Commission in accordance with Decision No.676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in EU (namely the Radio Spectrum Decision).

A 1.11 Regulation 27(3) provides that, without prejudice to Regulation 27(4), ComReg must ensure that all types of technology used for the provisions of ECN or ECS may be used in the radio spectrum declared available for ECSs in the Radio Frequency Plan published under Section 35 of the 2002 Act in accordance with EU law.

⁵² Section 12(1)(a)(iii) of the 2002 Act.

⁵³ Regulation 4(3)(a) of S.I. No. 444 of 2022.

A 1.12 Regulation 27(4) provides that, notwithstanding Regulation 17(3), ComReg may, through licence conditions or otherwise, provide for proportionate and non-discriminatory restrictions to the types of radio network or wireless access technology used for ECS where this is necessary to:

- (a) avoid harmful interference;
- (b) protect public health against electromagnetic fields;
 - (c) ensure technical quality of service;
 - (d) ensure maximisation of radio frequency sharing
 - (e) safeguard the efficient use of spectrum; or
- (f) ensure the fulfilment of a general interest objective as defined by or on behalf of the Government or a Minister of the Government in accordance with Regulation 27(7).

A 1.13 Regulation 27(5) provides that without prejudice to Regulation 27(7), ComReg must ensure that all types of ECS may be provided in the radio spectrum, declared available for ECS in the Radio Frequency Plan published under Section 35 of the Act of 2002 in accordance with EU law.

A 1.14 Regulation 27(6) provides that, notwithstanding Regulation 17(4), ComReg may provide for proportionate and non-discriminatory restrictions to the types of ECS to be provided, including where necessary, to fulfil a requirement under the International Telecommunication Union Radio Regulations (“ITU-RR”).

A 1.15 Regulation 27(7) requires that measures that require an ECS to be provided in a specific band available for ECS shall be justified in order to ensure the fulfilment of a general interest objective as laid down by or on behalf of the Government or a Minister of the Government in accordance with EU law including, but not limited to:

- (a) safety of life;
- (b) the promotion of social, regional or territorial cohesion;
- (c) the avoidance of inefficient use of radio frequencies; or
- (d) the promotion of cultural and linguistic diversity and media pluralism, for example, by the provision of radio and television broadcasting services.

- A 1.16 Regulation 27(8) provides that ComReg may only prohibit the provision of any other ECS in a specific radio spectrum frequency band where such a prohibition is justified by the need to protect safety of life services. ComReg may, on an exceptional basis, extend such a measure in order to fulfil other general interest objectives as laid down by or on behalf of the Government or a Minister of the Government in accordance with European law.
- A 1.17 Regulation 27(9) provides that ComReg shall regularly review the necessity of any restrictions imposed under Regulation 27 and shall make the results of such reviews publicly available.
- A 1.18 Regulation 27(10) requires ComReg to, in the fulfilment of its obligations under Regulation 27, respect relevant international agreements, including the ITU-RR and other agreements adopted in the framework of the ITU applicable to radio spectrum, any public policy considerations brought to its attention by the Minister.

Authorisation of use of radio spectrum

- A 1.19 Regulation 28(1) of S.I. No. 444 of 2022 provides that ComReg shall facilitate the use of radio spectrum, including shared use, under a general authorisation under Regulation S.I. No. 444 of 2022 and limit the granting of individual rights of use for radio spectrum where such rights are necessary to maximise efficient use in light of demand and taking into account the criteria set out in Regulation 28(2).
- A 1.20 Regulation 28(2) of S.I. No. 444 of 2022 provides that ComReg may decide to grant individual rights of use for radio frequencies by way of a licence taking account of:
- a) the specific characteristics of the radio spectrum concerned;
 - b) the need to protect against harmful interference;
 - c) the development of reliable conditions for radio spectrum sharing, where appropriate;
 - d) the need to ensure technical quality of communications or service;
 - e) objectives of general interest as laid down by or on behalf of the Government or a Minister of the Government in conformity with EU law; and
 - f) the need to safeguard the efficient use of spectrum.

A 1.21 Regulation 28(3) provides that when considering whether to issue general authorisations or to grant individual rights of use for the harmonised radio spectrum, taking into account technical implementing measures adopted in accordance with Article 4 of the Radio Spectrum Decision, ComReg shall seek to minimise problems of harmful interference, including in cases of shared use of radio spectrum on the basis of a combination of general authorisation and individual rights of use.

A 1.22 Regulation 29(1) of S.I. No. 444 of 2022 provides that ComReg shall attach conditions to individual rights of use for radio spectrum in accordance with Regulation 9(1) in such a way as to ensure optimal and the most effective and efficient use of radio spectrum. Regulation 29(7) provides that Regulation 29 is without prejudice to the Act of 1926.

Publication of procedures

A 1.23 Regulation 30(2)(a) of S.I. No. 444 of 2022 requires that ComReg shall, having regard to the provisions of Regulation 27 of the S.I. No. 444 of 2022, establish open, objective, transparent, non-discriminatory and proportionate procedures for the granting of individual rights of use for radio spectrum and cause any such procedures to be made publicly available.

Duration of rights

A 1.24 Regulation 31(1) of S.I. No. 444 of 2022 provides that rights of use for radio spectrum shall be in force for such period as ComReg considers appropriate in light of the objectives pursued in accordance with Regulation 36(2) and (3), taking due account of the need to ensure competition, as well, as in particular, effective and efficient use of radio spectrum, and to promote innovation and efficient investments, including by allowing for an appropriate period for investment amortisation.

A 1.25 Regulation 31(2) provides that where ComReg decides to grant individual rights of use for radio spectrum for which harmonised conditions have been set by technical implementing measures in accordance with the Radio Spectrum Decision in order to enable its use for wireless broadband electronic communications services for a limited period, it shall ensure regulatory predictability for the holders of the rights over a period of at least 20 years regarding conditions for investment in infrastructure which relies on the use of such radio spectrum, taking account of the requirements referred to in Regulation 31(1).

Conditions attached to rights of use for radio spectrum

A 1.26 Regulation 9(1) of S.I. No. 444 of 2022 provides that, notwithstanding Section 5 of the Wireless Telegraphy Act, 1926, but subject to any regulations under Section 6 of that Act, where ComReg specifies conditions to be attached to rights of use for radio spectrum, it may only attach such conditions as are listed in Part D of the Schedule 1. Part D lists the following conditions which may be attached to rights of use:

- Obligation to provide a service or to use a type of technology within the limits of Regulation 27, including, where appropriate, coverage and quality of service requirements.
- Effective and efficient use of radio spectrum in conformity with the Regulations.
- Technical and operational conditions necessary for the avoidance of harmful interference and for the protection of public health against electromagnetic fields, taking utmost account of Recommendation 1999/519/EC where such conditions are different from those included in the general authorisation.
- Maximum duration in conformity with Regulation 31, subject to any changes in the National Frequency Allocation Plan.
- Transfer or leasing of rights at the initiative of the holder of the rights and conditions of such transfer in conformity with these Regulations.
- Fees for rights of use in accordance with Regulation 24.
- Any commitments which the undertaking obtaining the rights of use has made in the framework of an authorisation or authorisation renewal process prior to the authorisation being granted or, where applicable, to the invitation for application of rights of use.
- Obligations to pool or share radio spectrum or allow access to radio spectrum for other uses in specific regions or at national level.
- Obligations under relevant international agreements relating to the use of radio spectrum bands.
- Obligations specific to an experimental use of radio frequencies.

A 1.27 Regulation 9(2) provides that (a) any attachment of conditions under Regulation 1) or (b) non-application under paragraph (1) of conditions to undertakings of a class or type as may be determined by ComReg, to rights of use for radio spectrum shall be non-discriminatory, proportionate and transparent and in accordance with Regulation 27.

A 1.28 Pursuant to Regulation 9(3) of S.I. No. 444 of 2022, an undertaking shall comply with the conditions attaching to rights of use for radio spectrum applicable to it.

Procedures for limiting the number of rights of use to be granted for radio spectrum

A 1.29 Regulation 36(1) of S.I. No. 444 of 2022 provides that, without prejudice to Regulation 35, where ComReg concludes that a right to use radio spectrum cannot be subject to a general authorisation and where it considers whether to limit the number of rights of use to be granted for radio spectrum, it shall, inter alia, without prejudice to Sections 13 and 37 of the 2002 Act:

- clearly state the reasons for limiting the rights of use, in particular by giving due weight to the need to maximise benefits for users and to facilitate the development of competition and review the limitation at intervals which it considers reasonable or at the reasonable request of any undertaking affected as appropriate; and
- give all interested parties, including users and consumers, the opportunity to express their views in accordance with Regulation 101.

A 1.30 Regulation 36(2)(a) of S.I. No. 444 of 2022 provides that ComReg may decide, having taken into account the matters referred to in paragraph (1)(a) and (b), that the number of rights of use for radio spectrum referred to in that paragraph ought to be limited and, where the Regulator so decides, it shall clearly establish, and give reasons for, the objectives pursued by means of a competitive or comparative selection procedure under this Regulation, and where possible quantify them, giving due weight to the need to fulfil national and internal market objectives.

A 1.31 Regulation 36(7) provides that where the granting of rights of use for radio spectrum needs to be limited, ComReg shall grant such rights on the basis of selection criteria and a selection procedure which are objective, transparent, non-discriminatory and proportionate. Any such selection criteria shall give due weight to the achievement of the objectives and requirements of section 12 of the Act of 2002 and Regulations 4, 16 and 27.

Fees for spectrum rights of use

A 1.32 Regulation 24(1) of S.I. No. 444 of 2022 permits ComReg, subject to sections 13 and 37 of the Act of 2002, to impose fees for rights of use for radio spectrum, which reflect the need to ensure the optimal use of the radio spectrum.

A 1.33 Pursuant to Regulation 24(2) of S.I. No. 444 of 2022, ComReg is required to ensure that any such fees are objectively justified, transparent, non-discriminatory and proportionate in relation to their intended purpose and take into account the objectives of ComReg as set out in Section 12 of the 2002 Act and the general objectives of the Directive and Regulation S.I. No. 444 of 2022. Regulation 23(3) provides that with respect to rights of use for radio spectrum, ComReg shall seek to ensure that applicable fees are set at a level which ensures efficient assignment and use of radio spectrum by: (a) setting reserve prices as minimum fees for rights of use for radio spectrum by having regard to the value of those rights in their possible alternative uses; (b) taking into account costs entailed by conditions attached to those rights; and (c) applying, to the extent possible, payment arrangements linked to the actual availability for use of the radio spectrum.

Amendment of rights and obligations

A 1.34 Regulation 14(1) of S.I. No. 444 of 2022 permits ComReg to amend rights, conditions and procedures concerning rights of use for radio spectrum, provided that any such amendment may only be made in objectively justified cases and in a proportionate manner, taking into consideration, where appropriate, the specific conditions applicable to transferable rights of use for radio spectrum or for numbering resources.

Other Relevant Legislation and Policy Instruments

Wireless Telegraphy Act, 1926 (the “1926 Act”)

A 1.35 Under Section 5(1) of the 1926 Act, ComReg may, subject to that Act, and on payment of the prescribed fees (if any), grant to any person a licence to keep and have possession of apparatus for wireless telegraphy in any specified place in the State.

A 1.36 Section 5(2) provides that, such a licence shall be in such form, continue in force for such period and be subject to such conditions and restrictions (including conditions as to suspension and withdrawal) as may be prescribed in regard to it by regulations made by ComReg under Section 6.

A 1.37 Section 5(3) also provides that, where it appears appropriate to ComReg, it may, in the interests of the efficient and orderly use of wireless telegraphy, limit the number of licences for any particular class or classes of apparatus for wireless telegraphy granted under Section 5.

A 1.38 Section 6 provides that ComReg may make regulations prescribing in relation to all licences granted by it under Section 5, or any particular class or classes of such licences, all or any of the following matters:

- the form of such licences;
- the period during which such licences continue in force;
- the manner in which, the terms on which, and the period or periods for which such licences may be renewed;
- the circumstances in which or the terms under which such licences are granted;
- the circumstances and manner in which such licences may be suspended or revoked by ComReg;
- the terms and conditions to be observed by the holders of such licences and subject to which such licences are deemed to be granted;
- the fees to be paid on the application, grant or renewal of such licences or classes of such licences, subject to such exceptions as ComReg may prescribe, and the time and manner at and in which such fees are to be paid; and
- matters which such licences do not entitle or authorise the holder to do.

A 1.39 Section 6(2) provides that Regulations made by ComReg under Regulation 6 may authorise and provide for the granting of a licence under Section 5 subject to special terms, conditions, and restrictions to persons who satisfy it that they require the licences solely for the purpose of conducting experiments in wireless telegraphy.

A 1.40 Regulation 9(1) of S.I. No. 444 of 2022 provides that, notwithstanding section 5 of the Act of 1926 but subject to any regulations made under section 6 of that Act, where ComReg specifies conditions to be attached to rights of use for radio spectrum, it may only attach such conditions as are listed in Part D of Schedule 1 to S.I. No. 444 of 2022.

A 1.41 Regulation 30(7) of S.I. No. 444 of 2022 provides that for the purpose of Regulation 30, a general authorisation for the use of radio spectrum shall be facilitated by way of an order made by ComReg under section 3(6) of the 1926 Act, declaring that a particular class or description of apparatus for wireless telegraphy is one to which the licence requirements of section 3 of the 1926 Act do not apply.

Broadcasting Act 2009 (the “2009 Act”)

A 1.42 Section 132 of the 2009 Act relates to the duties of ComReg in respect of the licensing of spectrum for use in establishing digital terrestrial television multiplexes and places an obligation on ComReg to issue:

- two DTT multiplex licences to RTÉ by request (see Sections 132(1) and (2) of the 2009 Act; and
- a minimum of four DTT multiplex licences to the BAI by request (see Sections 132(3) and (4) of the 2009 Act) for the provision of commercial TV content.

Article 4 of Directive 2002/77/EC (Competition Directive)

A 1.43 Article 4 of the Competition Directive⁵⁴ provides that:

“Without prejudice to specific criteria and procedures adopted by Member States to grant rights of use of radio frequencies to providers of radio or television broadcast content services with a view to pursuing general interest objectives in conformity with Community law:

- *Member States shall not grant exclusive or special rights of use of radio frequencies for the provision of electronic communications services.*
- *The assignment of radio frequencies for electronic communication services shall be based on objective, transparent, non-discriminatory and proportionate criteria.”*

⁵⁴ Commission Directive 2002/77/EC of 16 September 2002 on competition in the markets for electronic communications networks and services.

Radio Spectrum Policy Programme

A 1.44 On 15 February 2012, the European Parliament adopted, via a Decision⁵⁵, the five-year Radio Spectrum Policy Programme (“RSPP”) which establishes a multi-annual radio spectrum policy programme for the strategic planning and harmonisation of the use of spectrum. The objective is to ensure the functioning of the internal market in the Union policy areas involving the use of spectrum, such as electronic communications, research, technological development and space, transport, energy and audiovisual policies.

A 1.45 Among other things, Article 5 of the RSPP, entitled “Competition”, provides:

“1. Member States shall promote effective competition and shall avoid distortions of competition in the internal market for electronic communications services in accordance with Directives 2002/20/EC and 2002/21/EC.

They shall also take into account competition issues when granting rights of use of spectrum to users of private electronic communication networks.”

Policy Directions⁵⁶

A 1.46 Section 12(4) of the 2002 Act provides that, in carrying out its functions, ComReg must have appropriate regard to policy statements, published by or on behalf of the Government or a Minister of the Government and notified to the Commission, in relation to the economic and social development of the State. Section 13(1) of the 2002 Act requires ComReg to comply with any policy direction given to ComReg by the Minister for Communications, Energy and Natural Resources (“the Minister”) as he or she considers appropriate, in the interests of the proper and effective regulation of the electronic communications market, the management of the radio frequency spectrum in the State and the formulation of policy applicable to such proper and effective regulation and management, to be followed by ComReg in the exercise of its functions. Section 10(1)(b) of the 2002 Act also requires ComReg, in managing the radio frequency spectrum, to do so in accordance with a direction of the Minister under section 13 of the 2002 Act, while Section 12(1)(b) requires ComReg to ensure the efficient management and use of the radio frequency spectrum in accordance with a direction under Section 13.

⁵⁵ Decision No 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multiannual radio spectrum policy programme.

⁵⁶ ComReg also notes, and takes due account of, the Spectrum Policy Statement issued by the Department of Communications Energy and Natural Resources in September 2010

A 1.47 The Policy Directions which are most relevant in this regard include the following:

Policy Direction No.3 on Broadband Electronic Communication Networks

A 1.48 ComReg shall in the exercise of its functions, take into account the national objective regarding broadband rollout, viz, the Government wishes to ensure the widespread availability of open-access, affordable, always-on broadband infrastructure and services for businesses and citizens on a balanced regional basis within three years, on the basis of utilisation of a range of existing and emerging technologies and broadband speeds appropriate to specific categories of service and customers.

Policy Direction No.4 on Industry Sustainability

A 1.49 ComReg shall ensure that in making regulatory decisions in relation to the electronic communications market, it takes account of the state of the industry and in particular the industry's position in the business cycle and the impact of such decisions on the sustainability of the business of undertakings affected.

Policy Direction No.5 on Regulation only where necessary

A 1.50 Where ComReg has discretion as to whether to impose regulatory obligations, it shall, before deciding to impose such regulatory obligations on undertakings, examine whether the objectives of such regulatory obligations would be better achieved by forbearance from imposition of such obligations and reliance instead on market forces.

Policy Direction No.6 on Regulatory Impact Assessment

A 1.51 ComReg, before deciding to impose regulatory obligations on undertakings in the market for electronic communications or for the purposes of the management and use of the radio frequency spectrum or for the purposes of the regulation of the postal sector, shall conduct a Regulatory Impact Assessment in accordance with European and International best practice and otherwise in accordance with measures that may be adopted under the Government's Better Regulation programme.

Policy Direction No.7 on Consistency with other Member States

A 1.52 ComReg shall ensure that, where market circumstances are equivalent, the regulatory obligations imposed on undertakings in the electronic communications market in Ireland should be equivalent to those imposed on undertakings in equivalent positions in other Member States of the European Community.

Policy Direction No.11 on the Management of the Radio Frequency Spectrum

A 1.53 ComReg shall ensure that, in its management of the radio frequency spectrum, it takes account of the interests of all users of the radio frequency spectrum.

General Policy Direction No.1 on Competition (2004)

A 1.54 ComReg shall focus on the promotion of competition as a key objective. Where necessary, ComReg shall implement remedies which counteract or remove barriers to market entry and shall support entry by new players to the market and entry into new sectors by existing players. ComReg shall have a particular focus on:

- market share of new entrants;
- ensuring that the applicable margin attributable to a product at the wholesale level is sufficient to promote and sustain competition;
- price level to the end user;
- competition in the fixed and mobile markets; and
- the potential of alternative technology delivery platforms to support competition.

Promotion of Competition

A 1.55 Section 12(2)(a) of the 2002 Act requires ComReg to take all reasonable measures which are aimed at the promotion of competition, including:

- encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources;
- ensuring that there is no distortion or restriction of competition in the electronic communications sector; and
- ensuring that users, including disabled users, derive maximum benefit in terms of choice, price and quality.

A 1.56 Regulation 34(1) of S.I. No. 444 of 2022 provides that ComReg shall promote effective competition and avoid distortions of competition in the internal market when deciding to grant, amend or renew rights of use for radio spectrum for electronic communications networks and services in accordance with these Regulations.

Contributing to the Development of the Internal Market

A 1.57 Section 12(2)(b) of the 2002 Act requires ComReg to take all reasonable measures which are aimed at contributing to the development of the internal market, including:

- I. removing remaining obstacles to the provision of ECN, ECS and associated facilities at Community level;
- II. encouraging the establishment and development of trans-European networks and the interoperability of transnational services and end-to-end connectivity; and
- III. co-operating with electronic communications national regulatory authorities in other Member States of the Community and with the Commission of the Community in a transparent manner to ensure the development of consistent regulatory practice and the consistent application of Community law in this field.

A 1.58 In so far as consolidating the development of the internal market is concerned, Regulation 17(2) of S.I. No. 444 of 2022 provides that in carrying out its tasks under these Regulations, ComReg shall, taking the utmost account of its objectives under section 12 of the Act of 2002 and Regulation 4, contribute to the development of the internal market by working with national regulatory authorities in other Member States, BEREC and the European Commission in a transparent manner to ensure the consistent application of the Directive.

Promotion of Interests of Users

A 1.59 Section 12(2)(c) of the 2002 Act requires ComReg, when exercising its functions in relation to the provision of electronic communications networks and services, to take all reasonable measures which are aimed at the promotion of the interests of users within the Community, including:

- ensuring that all users have access to a universal service;
- ensuring a high level of protection for consumers in their dealings with suppliers, in particular by ensuring the availability of simple and inexpensive dispute resolution procedures carried out by a body that is independent of the parties involved;
- contributing to ensuring a high level of protection of personal data and privacy;
- promoting the provision of clear information, in particular requiring transparency of tariffs and conditions for using publicly available ECS;

- encouraging access to the internet at reasonable cost to users;
- addressing the needs of specific social groups, in particular disabled users; and
- ensuring that the integrity and security of public communications networks are maintained.

Technological Neutrality

A 1.60 Further to Regulation 4(5) of S.I. No. 444 of 2022, ComReg, in pursuit of the policy objectives referred to in paragraph (3), shall apply impartial, objective, transparent, non-discriminatory and proportionate regulatory principles by, inter alia —(c) applying European Union law in a technologically neutral fashion, to the extent that this is consistent with the achievement of the objectives set out in paragraph (3).

Regulatory Principles

A 1.61 Further to Regulation 4(5) of S.I. No. 444 of 2022, ComReg, in pursuit of the policy objectives referred to in paragraph (3), shall apply impartial, objective, transparent, non-discriminatory and proportionate regulatory principles by, inter alia: promoting regulatory predictability by ensuring a consistent regulatory approach over appropriate review periods and through cooperation with each other, with BEREC, with the RSPG and with the European Commission:

- ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing ECN and ECS;
- promoting efficient investment and innovation in new and enhanced infrastructures, including by ensuring that any access obligation takes appropriate account of the risk incurred by the investing undertakings and by permitting various cooperative arrangements between investors and parties seeking access to diversify the risk of investment, while ensuring that competition in the market and the principle of non-discrimination are preserved,
- taking due account of the variety of conditions relating to infrastructure, competition, the circumstances of end-users and, in particular, consumers that exist in the various geographic areas within the State, including local infrastructure managed by individuals on a not-for-profit basis, and

- imposing ex-ante regulatory obligations only to the extent necessary to secure effective and sustainable competition in the interest of end-users where there is no effective and sustainable competition and relaxing or lifting such obligations as soon as that condition is fulfilled. BEREC

A 1.62 Under Regulation 4(4) of S.I. No. 444 of 2022, ComReg must:

- having regard to its objectives under section 12 of the 2002 Act and its tasks under these Regulations, actively support the goals of BEREC of promoting greater regulatory coordination and consistency; and
- take the utmost account of guidelines, opinions, recommendations, common positions, best practices and methodologies adopted by BEREC when adopting decisions for the markets in the State.

Other Obligations under the 2002 Act

A 1.63 In carrying out its functions, ComReg is required, amongst other things, to:

- seek to ensure that any measures taken by it are proportionate having regard to the objectives set out in section 12 of the 2002 Act;⁵⁷
- have regard to international developments with regard to the radio frequency spectrum⁵⁸; and
- take the utmost account of the desirability that the exercise of its functions aimed at achieving its radio frequency management objectives does not result in discrimination in favour of or against particular types of technology for the provision of ECS.⁵⁹

⁵⁷ Section 12(3) of the 2002 Act.

⁵⁸ Section 12(5) of the 2002 Act.

⁵⁹ Section 12(6) of the 2002 Act.