



An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

COVID-19: Temporary spectrum management measures

Response to Consultation and Decision on temporary spectrum rights in the 700 MHz, 2.1 GHz and 2.6 GHz Bands

Response to Consultation, Decision and final Draft Regulations

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Commission for Communications Regulation

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Summary

1. On 24 March 2020, ComReg received a joint request from the three mobile network operators (MNOs) requesting it to temporarily release extra spectrum rights of use. The MNOs outlined that this extra bandwidth was necessary so as to provide extra capacity for mobile phone voice and broadband provision given the significantly increased traffic demands arising from the Irish Government's measures to tackle COVID-19.
2. On 27 March, ComReg published Document 20/21 a consultation entitled "*Covid-19 Temporary Spectrum Management Measures*" in which it proposed to release additional spectrum in the 700 MHz and 2.6 GHz bands, to temporarily liberalise the 2.1 GHz Band, which is currently licensed for 3G-use only, and set out the proposed licensing framework for same and sought the views of interested parties.
3. ComReg received eight responses to its consultation. While generally supportive of ComReg's proposals, respondents highlighted a small number of technical issues relating to co-existence of existing services with the proposed temporary use of spectrum.
4. On 1 April, ComReg published non-confidential versions of these responses and an Information Notice inviting a joint proposal from industry on arrangements for managing these co-existence issues (Document 20/23).
5. On 3 April, a document entitled "700 MHz Coordination Procedures" setting out coordination procedures which had been agreed by all three MNOs, 2RN¹ and Virgin Media was jointly submitted to ComReg.
6. Having considered the responses received to ComReg Documents 20/21 and 20/23 and other relevant information, ComReg is today publishing its Response to Consultation and final Decision. In this, ComReg has decided to temporarily:
 - a) release additional spectrum rights of use in the 700 MHz Duplex and 2.6 GHz bands; and
 - b) to make the 2.1 GHz Band available on a liberalised basis (which will allow operators to add additional capacity for data services).
7. The anticipated next steps in this process include:

¹ "2RN" means RTÉ Transmission Network DAC (trading as 2rn).

- ComReg receiving the consent of Minister for Communications, Climate Action and Environment to make regulations for the grant of Temporary Electronic Communications Services (ECS) Licences under section 6 of the Wireless Telegraphy Act 1926;
 - Applicants can submit a completed application form to ComReg (together with supporting information and payment of the applicable fee) as soon as ready. ComReg will process these applications when the regulations are made.
 - ComReg's assessment of applications received; and
 - subject to this assessment, the grant of Temporary ECS Licences for a period of up to three months (noting that should the current situation continue for longer than three months, the ability of licensees to apply for a renewal of a Licence for up to a further three months).
8. ComReg thanks all interested parties for the constructive manner in which they have engaged with ComReg with a view to completing this consultation process in an expedited manner.

Chapter 1

1 Introduction

1.1 On 27 March, ComReg published Document 20/21 entitled “*Covid-19 Temporary Spectrum Management Measures*” in which it proposed to temporarily release additional radio spectrum to provide extra capacity for mobile phone voice and broadband provision in support of the Irish Government’s measures to tackle COVID-19.

1.2 ComReg received submissions from the following interested parties to Document 20/21²:

- Eircom Limited and Meteor Mobile Communication Limited (trading as ‘eir’ and ‘open eir’) (“eir”);
- Imagine Communications Group (“Imagine”);
- Irish Aviation Authority (“IAA”);
- Irish Aviation Authority Safety Regulation Division (“IAA SRD”);
- Raidió Teilifís Éireann (RTÉ);
- Three Ireland (Hutchison) Limited (“Three”);
- Virgin Media Ireland (“Virgin Media”); and
- Vodafone Ireland Limited (“Vodafone”).

1.3 On 1 April, ComReg published an Information Notice (Document 20/23³) and non-confidential versions of submissions to Document 20/21 (Document 20/23a⁴). Document 20/23 requested views from interested parties on a small number of co-ordination and co-existence issues raised by respondents to Document 20/21, as follows:

- co-existence issues between new services in the 700 MHz Duplex and existing mobile services in the 800 MHz and 900 MHz bands;

² ComReg Document 20/21 - *Covid-19 Temporary Spectrum Management Measures* – published 27 March 2020.

³ ComReg Document 20/23 - *Covid-19 Temporary Spectrum Management Measures - Information Notice* – Published 1 April 2020.

⁴ ComReg Document 20/23a - *Covid-19 Temporary Spectrum Management Measures: Non Confidential Submissions to Document 20/21* – Published 1 April 2020.

- notification of the deployment of new sites in the 700 MHz Band and adjacent Digital Terrestrial Television services in adjacent bands;
- coexistence between deployments in the 2.6 GHz Band and the IAA's Primary Radar installations in the 2.7 GHz Band; and
- co-existence between the new services in the 700 MHz Duplex and Virgin Media's closed fixed broadband network in the 700 MHz Band.

1.4 On 3 April, the 700 MHz Coordination Procedures were agreed by all three MNOs (i.e. eir, Three, Vodafone), 2RN and Virgin Media, and jointly submitted to ComReg ("700 MHz Coordination Procedures").

1.5 This document sets out ComReg's response to consultation and final decision in respect of the proposed temporary spectrum management measures.

Structure of document

1.6 This document is structured as follows:

- **Chapter 2** sets out background information relevant to the consultation, including updated information on the Government's measures in the national response to the COVID-19 crisis, and the impact of these COVID-19 measures on network traffic;
- **Chapter 3** sets out the specific details of the temporary spectrum rights licensing framework, having had regard to the views of respondents to Documents 20/21 and 20/23, and ComReg's assessment of same;
- **Chapter 4** discusses ComReg's approach to the temporary spectrum rights licensing framework, having had regard to the respondents views on same;
- **Chapter 5** sets out ComReg's decision based on the views expressed by ComReg in the preceding chapters and their supporting annexes;
- **Chapter 6:** outlines the next steps;
- **Annex 1** is a glossary of defined terms;
- **Annex 2** sets out the Application form;
- **Annex 3** sets out Draft Regulations to facilitate the proposed assignment of temporary spectrum rights of use by ComReg;

- **Annex 4** sets out the 700 MHz Coordination Procedures as jointly submitted and agreed to by the three MNO, 2RN and Virgin Media; and
- **Annex 5:** summarises ComReg's statutory functions, objectives and duties relevant to the management of Ireland's radio frequency spectrum.

Chapter 2

2 Background Information

2.1 In Chapters 1 and 2 of Document 20/21, ComReg set out background information to its proposals, including details on the:

- measures being taken by the Irish Government to tackle the extraordinary situation arising from the spread of COVID-19 in Ireland;
- impact that these COVID-19 measures were having on network traffic, including both significant increases to, and changing the pattern of, this traffic;
- the MNOs' request for additional temporary spectrum rights of use;
- COVID-19 regulatory measures taken in other countries; and
- the legal framework relevant to this consultation.

2.2 In this chapter, ComReg sets out updated information where relevant.

2.1 Updated Information

Government measures to tackle COVID-19

2.3 On 27 March⁵, the Government announced a further stage in the national response to the COVID-19 crisis (previous measures were set out on 12 March⁶ and 24 March⁷) including that, from midnight of the previous night until 12 April, persons must stay at home except in specific circumstances, such as *“travel to and from work, or for purposes of work, only where the work is an essential health, social care or other essential service and cannot be done from home.”*

Impact of COVID-19 measures on network traffic

2.4 In their responses to Document 20/21, Vodafone and Three provided information on how the COVID-19 measures are impacting their network traffic.

2.5 Vodafone stated that:

⁵ See [Speech of Taoiseach Leo Varadkar 27 March 2020](#)

⁶ See [Statement by An Taoiseach Leo Varadkar On measures to tackle Covid-19 Washington, 12 March 2020](#)

⁷ See [Post Cabinet Statement, An Taoiseach, Leo Varadkar 24 March 2020](#)

- *“The pattern of use [of network traffic] has changed and Vodafone have seen a very significant increase in voice and data traffic carried by our mobile network. For example 2G Speech Traffic in weekdays has increased approx. 60% on Pre Covid Base line, and 2G Weekend traffic has increased by almost 100%.*
- *This pattern of use may alter further over the coming weeks and months leading to further demand as more businesses begin adapt to remote working practices and as online and voice call socialising increases.”*

2.6 Three stated:

- *“Over the past fortnight, on several occasions Three’s network has seen new records set for daily demand and data throughput. As we enter the first full working week under the “Stay at Home” guidelines, we expect that those records for demand will be again surpassed, and unless we can increase capacity in high demand areas this will reduce the quality of service delivered to many customers.”*

2.7 In addition, during the RTÉ 1 “Morning Ireland” radio programme of 31 March⁸, ComReg observed that overall voice traffic was up 30-60% and data traffic was up 20-25%, while Vodafone commented that it had experienced a 50% increase in voice traffic and a 25% increase in data traffic.

COVID-19 regulatory measures taken in other countries

2.8 On 31 March, Policy Tracker published an article entitled *“Regulators provide more spectrum to help deal with impact of COVID-19”*⁹. Aside from Ireland, it observed similar measures being taken or proposed in other countries, including the United States of America, Saudi Arabia, South Africa and Oman.

2.9 On 6 April, Cullen International published update no. 3 to its COVID-19 regulatory measures for electronic communications services in Europe¹⁰. After researching the situation in 20 European countries, Cullen’s main findings include that:

- *“In Portugal and Spain, a law suspended fixed and mobile number portability where physical presence of a technician is required to avoid physical contact between telecoms employees and clients.*

⁸ <https://www.rte.ie/radio/radioplayer/html5/#/radio1/21742853>

⁹ <https://www.policytracker.com/more-spectrum-for-covid-19-emergency/> (This is a subscription website)

¹⁰ <https://www.cullen-international.com/product/documents/FLTEEP20200014> (This is a subscription website)

- *Many authorities decided to take measures on spectrum assignment because of the emergency, ranging from delaying a spectrum auction (Austria) to launching a public consultation for the temporary release of additional radio spectrum (Ireland).*
- *Austria and Denmark required mobile operators to send COVID-19 warning messages by SMS.*
- *With the aim of keeping the whole population connected, some authorities requested flexibility on service payments, such as in Romania and Spain.”*

COVID-19 data-related measures undertaken by Irish MNOs

2.10 In their responses to Document 20/21, Three and Eir provided information on some of the measures being taken to assist customers with data caps during the COVID-19 situation.

2.11 Three stated that:

- *“Three has taken many steps itself to assist its customers at these difficult times. The vast majority of our customers have Three’s ‘All You Can Eat’ data offering, where previously we reserved the right to apply a 60GB per month limit after which we could exercise traffic management. This has been removed for all customers during the current crisis.*
- *For customers who are not on a price plan with All You Can Eat data, they will not use any of their data allowance when visiting HSE.ie or Gov.ie. In addition, there is no charge for calls our customers are making to the HSE Covid-19 helpline.”*

2.12 Eir stated:

- *“With regard to relaxing data caps, most of eir’s fixed and mobile retail plans already have unlimited data. Following the review eir has increased the data allowance for eir Business customers on the Performance mobile plan from 20Gb to unlimited to facilitate working from home.”*

Chapter 3

3 Licensing framework for temporary spectrum rights

3.1 This chapter sets out ComReg's final views on the licensing framework for temporary spectrum rights of use, having considered the views of respondents to Document 20/21, the 700 MHz Coordination Procedures and other relevant information before it.

3.1 Background on the 700 MHz Duplex, 2.1 GHz Band and 2.6 GHz Band in the context of the Temporary Situation

3.1.1 Availability of the requested bands and ComReg's Proposed Multi Band Spectrum Award

ComReg's views in Document 20/21

3.2 In Section 3.1.1 of Document 20/21, ComReg noted, in relation to the availability of the requested bands and ComReg's Proposed Multi Band Spectrum Award (Proposed MBSA), that:

- i. the bands being considered for potential temporary licences due to the Temporary Situation¹¹ are the 700 MHz Duplex, 2.1 GHz and 2.6 GHz Bands. The 700 MHz Duplex and 2.6 GHz Band (subject to agreement with the IAA) are available for licensing, while the 2.1 GHz Band is currently licensed to the three MNO's and is available for temporary early liberalisation;
- ii. all three bands are being considered as part of the Proposed MBSA (as most recently set out in Document 19/124), that the long term rights of use to be awarded in these bands (along with that of the 2.3 GHz Band) will be determined by the Proposed MBSA, and the current proposals, designed specifically to address the Temporary Situation, are entirely without prejudice to those in the Proposed MBSA.

Views of Respondents

3.3 **In relation to (i)**, and in the main, respondents acknowledged that the 700 MHz

¹¹ The temporary impact upon electronic communications networks and services arising from the extraordinary situation arising from the spread of the disease known COVID-19.

Duplex and 2.6 GHz bands are available for access and the 2.1 GHz Band is available for temporary early liberalisation, save for a few issues that need to be addressed relating to compatibility between any new services in the 700 MHz Duplex and 2.6 GHz Band and existing services in same or adjacent bands (which are addressed separately below).

- 3.4 **In relation to (ii)**, all respondents agreed with the principle that any licences are temporary in nature and for the purposes of the Temporary Situation only. In that regard, ComReg notes the following observations by Vodafone:

“Vodafone restate that our request is for temporary measures during the national crisis. Once the crisis has passed as determined by the Minister, the use of these measure will stop and the 2100MHz licences revert to 3G use only. The longer-term questions of access to 700MHz, 2600MHz, and liberalisation of 2.1GHz spectrum will be determined through other policy initiatives in line with ComReg’s recent consultations.”

ComReg’s Assessment and Final Position

- 3.5 In relation to (i) ComReg notes that while the matter of compatibility between networks was raised in submissions, solutions were subsequently agreed between operators to allow compatibility between networks as outlined below. Therefore, ComReg is of the view that the 700 MHz Duplex, 2.1 GHz Band and 2.6 GHz Band are available for licensing during the Temporary Situation.
- 3.6 In relation to (ii) ComReg reiterates that its present proposals are to address the exceptional and extraordinary situation raised by COVID-19 and are entirely without prejudice to its MBSA proposals. ComReg notes the broad agreement to this principle expressed by interested parties. ComReg has therefore included text along these lines in the Application Form.¹²

3.1.2 Equipment availability for consumers

- 3.7 In Document 20/21, ComReg noted the current general availability of devices on the market which have the capability to utilise the 700 MHz Duplex, 2.1 GHz Band and 2.6 GHz bands.
- 3.8 ComReg observes that respondents to Document 20/21 submitted views reflective of the figures presented by ComReg.
- 3.9 While there are relatively fewer handsets currently available with 4G capability in the 2.6 GHz TDD Band and 700 MHz Duplex (circa 60%) compared to the 2.1 GHz and 2.6 GHz FDD bands (circa 90%), ComReg remains of the view

¹² Specifically paragraph 4 of Part 6: Application Declaration Form.

that there would be sufficient consumer equipment available to make use of the proposed bands during the Temporary Situation. This use should reduce the traffic in the bands in which services are currently being provided, thereby improving services even for those consumers whose equipment cannot directly use these bands.

3.1.3 Equipment availability for network operators

3.10 In Document 20/21, ComReg:

- acknowledged that the extent to which each of the MNO's networks are currently provisioned to operate in the 700 MHz Duplex, 2.1 GHz Band (on a liberalised basis), and 2.6 GHz Band will be best known by each individual operator; and
- welcomed submissions from MNOs regarding same.

3.11 In that regard:

- Three, in its confidential annex to its submission, outlined the capabilities and readiness of its infrastructure to utilise this radio spectrum; and
- Eir and Vodafone noted the ability of existing infrastructure, including temporary infrastructure, to utilise this radio spectrum.

3.12 As part of the licence application procedure, applicants will be required to submit more precise information, including infrastructure information which will be included in the Licence schedule once the application is approved.

3.1.4 Eligibility for a Temporary ECS Licence and information required in support of same

ComReg's proposal in Document 20/21

3.13 In Document 20/21, ComReg outlined that the underlying intention of its proposal is to facilitate operators that can readily utilise the 700 MHz Duplex, 2.1 GHz and/or 2.6 GHz bands to meet the demand of consumers during the Temporary Situation using existing infrastructure. ComReg stated that operators should only apply for rights of use that they can readily use and be able to readily demonstrate this ability to ComReg.

3.14 ComReg incorporated this approach into the Draft Regulations, and also proposed that this would be part of the application process whereby applicants would be required to provide 'Appropriate Evidence' of same.

Views of Respondents

3.15 ComReg received 4 submissions in relation to its proposals on the application process.

3.16 Eir submits that:

- as the consultation presents a robust justification for implementing the temporary spectrum management measures there should not be a requirement for applicants to present a detailed justification;
- at this time, industry resources are focussed on maintaining network stability and reliability, it would not be effective or efficient, in its view, to undertake analysis on potential capacity scenarios given the significant change from predictable patterns of behaviour and use of communications services;
- evidence that an applicant will be able to utilise the measures expeditiously should be sufficient;
- MNO's should provide a list of sites that will avail of the Temporary ECS Licences and that additional sites can be added to this list;
- MNOs should have some flexibility to install / redeploy equipment to existing sites or temporary base stations to augment coverage in strategic locations; and
- it assumes that ComReg will process applications rapidly, and requests that an application form be made available soonest.

3.17 Three submits that the application process must be simple and straightforward, as should the process for obtaining a renewal of a Temporary ECS Licence.

3.18 Vodafone agrees with ComReg's proposal in principle, but adds that it has used temporary base stations to cover special events in the past and may wish to use these at sites during the Temporary Situation.

3.19 The IAA suggests that additional information be provided as part of the Appropriate Evidence such as:

- antenna orientation;
- antenna height; and
- coverage predications.

ComReg's Assessment and Final Position

- 3.20 In relation to Eir's submission, ComReg observes that whilst the material in Document 20/21 and as updated in this document provides general support for its temporary licensing proposals and framework, it remains incumbent on applicants to satisfactorily demonstrate that they are individually able to, among other things, make use of the spectrum rights applied for expeditiously, having regard to the timeframes involved (see Regulation 4(2)).
- 3.21 In relation to the application process, Annex 2 of this Document sets out the Application Form including the types of supporting information to be submitted. ComReg is pleased to clarify that any fully supported application for a Temporary ECS Licence will be processed expeditiously.
- 3.22 With regard to the use of existing infrastructure, ComReg notes that the MNOs in general sought some additional flexibility to install or redeploy equipment to sites. While ComReg reiterates that Temporary ECS Licences should not be used for the large-scale rollout of networks that were not previously planned, ComReg agrees that MNOs should have some flexibility to install or redeploy equipment and to continue with existing network upgrade plans.
- 3.23 ComReg agrees with the views of the IAA that such additional information may be useful to the IAA, particularly for ensuring compatibility between the IAA primary radars and any potential Temporary ECS Licensee in the 2.6 GHz Band (see section 3.3.2 below).

3.2 700 MHz Duplex and 2.6 GHz Band

3.2.1 ComReg's views in Document 20/21

700 MHz Duplex

- 3.24 ComReg proposed that any assignments in the 700 MHz Duplex follow the same ordering of spectrum assignment as currently assigned in the 800 MHz Band, and that the risk of interference between the 700 MHz Duplex and the 800 MHz and 900 MHz Band should be managed between the operators concerned. ComReg was supportive of the operators establishing a joint protocol to manage same.
- 3.25 ComReg therefore proposed, subject to an applicant providing satisfactory supporting material in the context of Regulation 4(2), the following spectrum assignments for the period of the Temporary Situation:

- *Eir: 703 to 713 MHz paired with 758 to 768 MHz;*

- **Three:** 713 to 723 paired with 768 to 778 MHz; and
- **Vodafone:** 723 to 733 paired with 778 to 788 MHz.

3.26 ComReg also proposed the following licence conditions:

- that the Licence would be technology and service neutral in accordance with the 700 MHz EC Decision;
- the Licence would be of a non-exclusive nature; and
- certain technical conditions would be in accordance with the 700 MHz EC Decision.

2.6 GHz Band

3.27 ComReg noted that the IAA primary radars are a safety of life service and that any use of the 2.6 GHz Band must be permitted in a way that ensures compatibility between both systems. Further, the issuing of any licences in the 2.6 GHz Band would be subject to further consultation with the IAA.

3.28 ComReg proposed that, if the IAA was amenable to the use of the band in these temporary circumstances, ComReg would issue Temporary ECS Licences in the 2.6 GHz Band, subject to the conditions noted in Section in 3.2.5 of Document 20/21.

3.29 ComReg also proposed the following licence conditions:

- the Licence would be technology and service neutral in accordance with the 2.6 GHz EC Decision;
- the Licence would be of a non-exclusive nature; and
- certain technical conditions would be in accordance with the 2.6 GHz EC Decision.

3.2.2 Views of respondents to Document 20/21

3.30 ComReg received a number of submissions in relation to its 700 MHz Duplex and 2.6 GHz Band proposals as outlined in Document 20/21.

3.31 ComReg further observed, in Document 20/23, that the key issues¹³ raised related to compatibility and coordination between the potential new services in

¹³ As raised by the respondents to Document 20/21, the non-confidential versions of which were published in Document 20/23a.

the 700 MHz Duplex and the 2.6 GHz Band and existing services in the same or adjacent spectrum bands, which can be summarised as follows¹⁴:

- (i) co-existence issues between new services in the 700 MHz Duplex and existing mobile services in the 800 MHz and 900 MHz bands;
- (ii) a request by RTÉ for a notification of the deployment of new sites in the 700 MHz Band which may relate to the adjacent Digital Terrestrial Television services;
- (iii) new information made available by the IAA in relation to the deployment of sites in the 2.6 GHz Band and coexistence between the IAA's Primary Radar installations in the 2.7 GHz Band; and
- (iv) co-existence between the new services in the 700 MHz Duplex and Virgin Media's closed fixed broadband network (HFC) in the 700 MHz Band

3.32 In support of its submission, Virgin Media raised a number of concerns with ComReg's proposal for the 700 MHz Duplex Band including that, in its view, ComReg is operating contrary to its statutory objectives. Virgin Media contends that the use of 700 MHz Duplex would, in its view, interfere with Virgin Media's closed fixed cable infrastructure, thereby degrading its services.

3.2.3 Views of respondents to Document 20/23

3.33 In light of the above, ComReg requested in Document 20/23 that, in the Irish national interest during this Temporary Situation, and given the urgency of this matter that it would be grateful to receive proposed solutions in relation to the above four matters.

3.34 In response to its request, on 3 April, ComReg received a 700 MHz Coordination Procedure jointly agreed by all three MNOs, 2RN and Virgin Media. This document outlines the principles agreed between the operators if using the 700 MHz Duplex during this Temporary Situation, including that:

- the introduction of temporary services in the 700 MHz Duplex should not cause harmful interference to existing services, but that where there is only a very small likelihood of interference being caused then MNOs should be free to deploy services;
- MNOs deploying temporary services in the 700 MHz Duplex will share information about the location and technical characteristics of each with

¹⁴ Further details can be found in Document 20/23a.

the other relevant parties; and

- it shall be the responsibility of each MNO introducing temporary services into the 700 MHz Duplex to take steps to eliminate any source of interference.

3.35 The agreed 700 MHz Coordination Procedure, as submitted, is contained in Annex 4.

3.2.4 ComReg's consideration of the 700 MHz Coordination Procedures submitted by operators

3.36 ComReg welcomes the collaboration of the stakeholders in developing the 700 MHz Coordination Procedures to resolve the 700 MHz Band compatibility concerns raised and outlined above.

3.37 ComReg notes that the parties themselves are best placed to develop and agree such procedures. Consequently, and in order to ensure compatibility and coexistence of services and maintain quality of services to consumers during the Temporary Situation, operators who obtain a Temporary ECS Licence will be required to abide by these procedures (as contained in Annex 4). In doing so, ComReg also reminds operators of their obligations under Irish and EU competition law.

3.38 The 700 MHz Coordination Procedures do not address coordination matters relating to the 2.6 GHz Band which is considered at Section 3.3 below.

3.2.5 ComReg's consideration of Virgin Media claims in relation to the 700 MHz Band

3.39 For the period of the Temporary Situation, ComReg notes that the 700 MHz Coordination Procedures has been agreed to by Virgin Media, 2RN and the three MNOs, and ComReg has made this a condition of Temporary ECS Licences.

3.40 In the longer term, ComReg notes that Virgin Media's network is a closed fixed network and that ComReg has already considered the matters raised by Virgin Media in Section 7.9.4 of Document 19/124.

3.41 Notwithstanding the positive collaboration demonstrated by all interested parties to resolve this issue in the current circumstances, for the reasons set out in Document 19/124, it is clear that the Virgin Media concern regarding the impact of MFCN deployment in the 700 MHz Duplex is a matter that it itself must resolve, given that it is operating a closed network, and must do so in sufficient

time before any long term rights of use are awarded as part of the Proposed MBSA.

3.3 Other matters relating to the 700 MHz Duplex and 2.6 GHz bands

3.3.1 700 MHz Duplex

Quantum of assignment and ordering of spectrum rights in the band

3.42 All three MNO's made submissions in relation to this matter in response to Document 20/21.

3.43 Eir submits that an equal assignment of spectrum should be made to the three MNOs (Eir, Three and Vodafone) and that the initial application process for spectrum in the 700 MHz Duplex should be limited to 2 x 10 MHz per applicant. Eir also submits that should the supply of 700 MHz Duplex spectrum exceed demand, any surplus should be assigned between the applicants, taking appropriate steps to mitigate any risk of interference.

ComReg's Assessment and Final Position

3.44 ComReg notes that the principles to ensure compatibility between networks are established in the 700 MHz Coordination Procedures as set out in Annex 4. ComReg notes agreement from the operators in the ordering of the spectrum and, in this regard, ComReg's view remains that as set out in Document 20/21. In particular, and subject to the receipt of valid applications, Temporary ECS Licences would be assigned as follows:

- Eir: 703 to 713 MHz paired with 758 to 768 MHz;
- Three: 713 to 723 MHz paired with 768 to 778 MHz; and
- Vodafone: 723 to 733 MHz paired with 778 to 788 MHz.

3.45 ComReg reserves the right to make alternative assignments in line with its statutory objectives and duties.

3.3.2 2.6 GHz Band – Compatibility of ECS and the IAA Primary Radars

Views of respondents

3.46 Eir, Three and Virgin Media agree with ComReg's proposals with the former two respectively stating that use of the band should not interfere with the IAA

primary radars, and that licensing in this band may be on a case by case basis.

- 3.47 Vodafone states that it has considered the compatibility measures in Document 19/124c and would seek to use this spectrum in areas which would not cause interference, including, in its view, the city centres of Dublin and Cork. Vodafone refers to test and trial licences, provided by ComReg, through which it has used this spectrum with no reported issues.
- 3.48 The IAA notes that, during the Temporary Situation, MFCN deployments would be possible in the 2.6 GHz Band but that MNOs should not be permitted to operate in locations where there is a risk of radar interference. The IAA suggests that exclusion zones should be established by reference to Figures 4.3, 4.5, 4.6, and 5.3 of the Plum report published by ComReg as Document 19/124c. The IAA also notes that, in advance of deployment by any MNO in the band, prior notification of the fields as provided in paragraph 3.19 of Document 20/21 along with information on antenna height, antenna orientation and coverage plots should be provided to it.
- 3.49 The IAA SRD expresses concern at the proposed inclusion of the 2.6 GHz Band and advises that MFCN deployments are prohibited in the exclusion zones identified in the Plum Report.
- 3.50 With regard to Section 2 condition 3 (g) of the Draft Regulations, the IAA points out that the requirement is for an additional in-band radiation limit and not an out of band limit.

ComReg's Assessment and Final position

- 3.51 ComReg notes that stakeholders did not set out a coordination procedure in relation to the 2.6 GHz Band as part of the joint coordination procedure of 3 April. Separately, the IAA in its submission has identified that deployments in the 2.6 GHz Band would be possible subject to certain conditions as summarised above.
- 3.52 As this is a safety of life system, ComReg will only allow mobile deployments in the 2.6 GHz Band which are in line with the technical conditions necessary to protect IAA's primary radars. These are set out in the Draft Regulations in Annex 3.
- 3.53 Each operator will be required to establish a nominated point of contact for notification and coordination of all planned site deployments with the IAA and submit information as reasonably required by the IAA, including the relevant site details (as per Part 3 of Application Form along with antenna height, antenna orientation and coverage plots).

3.4 2.1 GHz Band

3.4.1 ComReg's views in Document 20/21

- 3.54 As set out in Section 3.2.4 of Document 20/21, ComReg proposed that applications for temporary spectrum rights in the 2.1 GHz Band would only be accepted from the existing licensees Eir, Three and Vodafone.
- 3.55 ComReg proposed that licences would be technology and service neutral in accordance with the 2.1 GHz EC Decision and that certain technical conditions would apply, which would also be in accordance with the 2.1 GHz EC Decision.

3.4.2 Views of Respondents

- 3.56 ComReg received three submissions regarding its 2.1 GHz Band proposals, none of which disagreed or suggested any changes to ComReg's proposals.

3.4.3 ComReg's Assessment and Final Position

- 3.57 ComReg's position on the 2.1 GHz Band therefore remains unchanged from that outlined in Document 20/21.

3.5 Licence Duration

3.5.1 ComReg's views in Document 20/21

- 3.58 In Document 20/21, ComReg noted that any Temporary ECS Licences issued should be short-term and only for the duration of the Temporary Situation. For the reasons set out in Section 3.3.2 of Document 20/21, ComReg proposed a licence duration of up to 3 calendar months, with the possibility of renewal of up to a further 3 calendar months, but where all licences granted or renewed would expire no later than 6 months from the making of the Regulations.

3.5.2 Views of Respondents

- 3.59 All respondents providing submissions on licence duration agreed with ComReg's proposal.

3.5.3 ComReg's Assessment and Final Position

- 3.60 In light of the above, ComReg's final position is that it will implement its proposal on licence duration as set out in Document 20/21.

3.6 Fees

3.6.1 ComReg's views in Document 20/21

3.61 In Document 20/21, ComReg was of the preliminary view that the optimal use of the radio spectrum could be ensured without needing to rely on spectrum fees and that a nominal fee of €100 would be appropriate for Temporary ECS Licence(s).

3.6.2 Views of Respondents

3.62 All respondents providing submissions on spectrum fees agreed with ComReg's proposal.

3.6.3 ComReg's Assessment and Final Position

3.63 ComReg's final position is that a nominal, non-refundable fee of €100 will apply to the grant of a Temporary ECS Licence, and for any renewal of same, for the reasons set out in Section 3.4 of Document 20/21.

3.7 Coverage at specific locations

3.7.1 ComReg's views in Document 20/21

3.64 In Section 3.5 of Document 20/21, ComReg proposed to include a licence obligation that requires licensees to provide coverage at specific locations related to the COVID-19 situation, such as existing and potential medical facilities.

3.65 As set out in Table 1 of Section 4, Part 4 of Schedule 1 to the Draft Regulations, this obligation would be on a "best efforts" basis using all spectrum rights of use available to the Licensee (e.g. 800 MHz, 900 MHz, 1800 MHz, 3.6 GHz bands) (see table below).

Table 1: Proposed Coverage at specific locations obligation

| Coverage | Location | Obligation |
|-----------------|---|--|
| Outdoors | Specific locations in relation to the extraordinary situation arising from COVID-19 as may be determined from time to time by the Government and communicated to the Commission by the Department of Communications, Climate Action and the Environment | Best efforts using all rights of use available to the Licensee |

3.7.2 Views of Respondents

3.66 ComReg received submissions from all three MNOs on its proposal, which can be summarised as follows:

- Eir agrees that these obligations should be on a “best efforts” basis, and noted that this list of locations would be updated. Eir requests as much notice of these locations as possible to facilitate deployment of sufficient capacity;
- Three agrees that these obligations would be on a best efforts basis; and
- Vodafone states that it would seek to cooperate with these proposals to the maximum extent possible but notes that equipment may not be available to cover all nominated sites. Vodafone suggests that the list of locations may already be covered by on-going discussions with Government and ComReg, and that adding this obligation may not be useful and expects the list to change on an ongoing basis. Vodafone also states that it may seek the support of ComReg and Government to gain access to some sites.

3.7.3 ComReg’s Assessment and Final Position

3.67 Noting the general support of the MNOs for its proposal, and for the reasons set out in Document 20/21, ComReg remains of the view that it would be appropriate to include an obligation to provide coverage at specific locations related to the COVID-19 situation as particularised in the Draft Regulations.

3.68 ComReg notes the views in relation to the practical matters of specifying the location of these sites and notice for same, the updating of the list of sites on an on-going basis, and the ability of MNOs to provide coverage in present

circumstances.

3.8 Other actions that could be taken

3.8.1 ComReg's views in Document 20/21

3.69 ComReg noted that the proposed measures may allow MNOs to temporarily offer consumers flexibility in accessing services over the period through a variety of measures (e.g. increase data caps /call minute allowances etc.) and ComReg encouraged MNOs to consider same.

3.70 ComReg also encouraged leasing arrangements (and in particular in relation to the 3.6 GHz Band) and noted the possibility of assigning temporary rights of use in the 2.3 GHz Band.

3.8.2 Views of Respondents

3.71 In relation to the 2.3 GHz Band, Vodafone submits that it does not have suitable equipment to utilise this band and that, in any event, there are not enough compatible phones to make it an effective short term solution.

3.72 In relation to spectrum leasing, four respondents submitted views in support of the leasing of spectrum rights in the 3.6 GHz Band and, in summary:

- Imagine submits that its network and customer premises equipment are immediately capable of making full use of any assignments in the 3.6 GHz Band that are unused by MNOs;
- Three submits that, for the duration of the Temporary Situation, it will pause its rollout in the 3.6 GHz Band where it would require a cessation of existing services to customers from other providers, and that it is open to sub-leasing some of its 3.6 GHz spectrum rights of use to fixed wireless providers on a temporary basis;
- Eir submits that it has suspended 3.6 GHz transition activities in cases where this is requested by an existing FWALA operator and states that it is willing to consider leasing unused 3.6 GHz spectrum in rural areas; and
- Vodafone states that it is happy to cooperate with leasing proposals and that it has been approached by Imagine in this regard.

3.8.3 ComReg's Assessment and Final Position

3.73 ComReg notes and welcomes the positive views of respondents to provide solutions to improve the services for consumers during the Temporary Situation and, in relation to potential leasing of spectrum rights in the 3.6 GHz band, ComReg looks forward to receiving further details of same soonest.

Chapter 4

4 Assessment of Approach

4.1.1 ComReg's views in Document 20/21

4.1 In Chapter 4 of Document 20/21, ComReg was of the preliminary view that the Proposed Approach (as set out in Chapter 3 of Document 20/21) was in the best interests of consumer and competition and would be appropriate in the context of ComReg's functions, objectives and duties, including being objectively justified and proportionate.

4.1.2 Views of Respondents

4.2 All respondents providing submissions on the matters addressed in Chapter 4 of Document 20/21, with the exception of Virgin Media, agreed with ComReg's proposal.

4.3 Virgin Media submitted that ComReg's Proposed Approach does not accord with ComReg's statutory functions and objectives for the following reasons:

- it is likely to result in interference and have a significant adverse impact on the ability of Virgin Media to provide services to consumers;
- the basis for the proposed intervention is unclear and there is an absence of evidence of issues with mobile capacity in Ireland, including that:
 - it has seen a reduction in mobile demand from its customers (i.e. its customers are using less) since the recommendation by Government for people to work from home;
 - its customers have opted to use in home Wi-Fi while using data instead of LTE services;
 - there does not appear to be information available from other jurisdictions that would suggest mobile capacity issues;
 - there is no evidence presented of possible further increases in demand or that might inform concerns regarding possible localised congestion;
- an evidence-based approach should be adopted whereby MNOs should be obliged to inform ComReg of where capacity issues are arising and

should be required to justify how and why the use of the 700 MHz Band spectrum in specific locations would assist in alleviating those issues;

- only 56% of handset types available in Ireland are compatible with the 700 MHz Band suggesting that use of this band by MNOs may not have the desired impact; and
- ComReg is obliged to ensure that its proposals, as with any spectrum award, does not interfere with existing rights of use of any operator where this would be likely to have a severe adverse impact on consumers.

4.1.3 ComReg's Assessment and Final Position

4.4 ComReg assesses each of the above views in turn.

4.5 **First**, ComReg notes that the licensing framework (see Chapter 3 above) and the 700 MHz Coordination Procedures subsequently agreed between Virgin Media and the MNOs (see Annex 4), in particular, would address the 700 MHz coexistence issues raised by Virgin Media.

4.6 **Second**, in relation to Virgin Media's claim that customers have opted to use in home Wi-Fi while using data instead of LTE services, ComReg reiterates that services are provided to consumers through a variety of fixed and wireless alternatives and, in many cases, the primary means of accessing these services will be through a fixed line connection¹⁵. However, as noted in paragraphs 1.10 and 4.8 of Document 20/21:

- Around half of Irish households do not have a fixed line voice connection and to the extent they make voice calls, would in the current circumstances rely on mobile networks (which has close to full population penetration¹⁶) to make voice calls; and
- Around 20% of households primarily rely on wireless means for internet access.¹⁷

4.7 For these customers, fixed line services are not currently available and, given the importance of some services (particularly voice services currently), there is a clear basis for regulatory measures that would support as many users as

¹⁵ See Paragraph 4.8 of Document 20/21.

¹⁶ 98% of the population (18+) have and use a mobile handset.
Document 19/101 - Mobile Consumer Experience Survey 2019, slide 10.

¹⁷ This would include those that access the internet in the home over their mobile phone, mobile broadband provided by mobile operators (routers), satellite internet and fixed wireless. Note some households may have multiple sources for voice and internet services.

possible. Further, ComReg notes that households typically have access to multiple sources of voice and data connectivity (e.g. fixed and mobile connections) and with a greater number of people at home, many at the same time, there is a clear advantage for consumers being able to switch between alternatives during the Temporary Situation in order to reduce the load on any one particular network.

4.8 ComReg also notes that such concerns would likely include some of Virgin Media's own customers who rely on voice/data services provided over mobile networks, including Virgin Mobile customers. For example:

- [redacted] Such customers may have a greater dependence on mobile networks to make voice calls during the Temporary Situation.
- [redacted] and may use mobile networks to make calls during the Temporary Situation.

4.9 ComReg also notes that Virgin Mobile is a Mobile Virtual Network Operator ("MVNO")¹⁹ on the Three network and, regardless of any decreased traffic generated by it, ComReg observes that any material disruptions to the Three network would also impact Three's wholesale services to Virgin Media [redacted].

4.10 **Third**, ComReg clearly assessed available evidence in Ireland and other jurisdictions in forming the basis for its proposals (again noting that a significant amount of households rely on wireless services to obtain connectivity). In particular:

- At paragraph 1.3 of Document 20/21, ComReg described the growth in voice and data traffic on mobile networks in the period up to the Joint Request;
- Sections 4.2.1 and 4.2.2 of Document 20/21 detail the likely increased use for voice and data services across society, and paragraphs 4.13 and 4.20 noted that such views were consistent with the views of MNOs in Paragraph 1.3 and also with the experience in other jurisdictions that have reported increases in the use of voice calls;

¹⁸ [redacted]

¹⁹ MVNOs are service providers that purchase access and call origination at wholesale level from MNOs in order to offer their own mobile services to subscribers at retail.

- Virgin Media itself notes that the Proposed Approach “could cater for the increase in voice and data traffic over the MNOs networks.”;
- Paragraph 4.36 of Document 20/21 noted that the Proposed Approach would also protect against future increases in demand over the period of the Temporary Situation caused by additional government measures. In this regard, ComReg noted that there was a 75% rise in residential data traffic across broadband and mobile networks since enacting additional lockdown measures in Italy, according to Telecom Italia; and
- The assignment of rights of use by ComReg would be based on the justified need for those rights of use to alleviate capacity concerns over the period of the Temporary Situation.²⁰

4.11 Further, ComReg notes Vodafone’s and Three’s submissions regarding increased demand across mobile networks, including:

- *“Vodafone have seen a very significant increase in voice and data traffic carried by our mobile network.”*
- *“Three’s network has seen new records set for daily demand and data throughput...we expect that those records for demand will be again surpassed, and unless we can increase capacity in high demand areas this will reduce the quality of service delivered to many customers.”*

4.12 ComReg also notes, that since the publication of Document 20/21, further information has become available on measures taken in other jurisdictions²¹, including temporary spectrum releases.²²

4.13 In addition, the ITU has also published an update on “Policy and Regulatory experiences and best practices that can improve COVID-19 responses” which included *“ComReg’s release of more radio spectrum to boost mobile phone & broadband capacity due to the COVID-19 crisis.”*²³

4.14 **Fourth**, in relation to suggestion that MNOs should be required to justify the use of 700 MHz Band spectrum, ComReg refers to Regulation 4(2) of the Draft Regulations, section 3.1.4 above and the Application Form.

4.15 **Fifth**, in relation to claims that only 56% of handset types available in Ireland are compatible with the 700 MHz Band, ComReg observed in Paragraph 3.10

²⁰ See paragraphs 3.62, 4.3, 4.23 (b), 4.39, 4.40, 4.42 and footnote 76 of Document 20/21.

²¹ <https://www.cullen-international.com/product/documents/FLTEEP20200014>

²² <https://www.gsma.com/newsroom/blog/keeping-everyone-and-everything-connected-how-temporary-access-to-spectrum-can-ease-congestion-during-the-covid-19-crisis/>

²³ <https://www.itu.int/en/ITU-D/Regulatory-Market/Pages/REG4COVID.aspx>

of Document 20/21 that this number was likely to be higher, an observation subsequently supported by confidential information provided by respondents²⁴. In any event, the use of the 700 MHz Band by any significant amount of traffic would offload traffic from other bands and thereby, subject to coverage, likely improve services to the users of all bands.

- 4.16 Therefore, ComReg is of the view that the Proposed Approach (updated in Chapter 3 of this document) would be appropriate in the context of ComReg's functions, objectives and duties for the reasons set out in Chapter 4 of Document 20/21 and in light of the measures designed to avoid harmful interference as detailed in the 700 MHz Coordination Procedures (Annex 4) and assessed by ComReg in Chapter 3 above.

²⁴ For example, []

Chapter 5

5 Decision

This chapter sets out ComReg's decision document based on the views expressed by ComReg in the preceding chapters and their supporting annexes.

Decision

5.1 1. DEFINITIONS AND INTERPRETATION

2. In this Decision, save where the context otherwise admits or requires:

"2.1 GHz Band" means radio frequency spectrum in the range 1920 to 1980 MHz paired with radio frequency spectrum in the range 2110 to 2170 MHz;

"2.1 GHz Band Block" means a 5 MHz paired block of radio frequency spectrum in the 2.1 GHz Band;

"2.1 GHz Band EC Decision" means European Commission Decision 2012/688/EC²⁵;

"2.6 GHz Band" means radio frequency spectrum in the range 2500 to 2690 MHz;

"2.6 GHz Band EC Decision" means European Commission Decision 2008/477/EC²⁶;

"2.6 GHz Band FDD Frequency Generic Block" means a 5 MHz block of radio frequency spectrum in the range 2500 to 2570 MHz paired with a 5 MHz block of radio frequency spectrum in the range 2620 to 2690 MHz;

"2.6 GHz Band TDD Fixed Frequency Block (Lower)" means the 5 MHz unpaired block of radio frequency spectrum in the range 2570 to 2575 MHz;

"2.6 GHz Band TDD Fixed Frequency Block (Upper)" means a 5 MHz unpaired block of radio frequency spectrum in the range 2615 to 2620 MHz;

"2.6 GHz Band TDD Frequency Generic Block" means a 5 MHz unpaired block of radio frequency spectrum in the range 2575 to 2615 MHz;

²⁵ Commission Implementing Decision of 5 November 2012 on the harmonisation of the frequency bands 1920 - 1980 MHz and 2110 - 2170 MHz for terrestrial systems capable of providing electronic communications services in the Union.

²⁶ Commission Decision of 13 June 2008 on the harmonisation of the 2500-2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community.

“2.6 GHz Band Blocks” means the 2.6 GHz Band FDD Frequency Generic Blocks and the 2.6 GHz Band TDD Blocks;

“2.6 GHz Band TDD Blocks” means the 2.6 GHz Band TDD Fixed Frequency Block (Lower), 2.6 GHz Band TDD Fixed Frequency Block (Upper) and 2.6 GHz Band TDD Frequency Generic Blocks;

“700 MHz Duplex” means radio frequency spectrum in the range 703 – 733 MHz paired with 758 – 788 MHz;

“700 MHz Duplex Block” means a right of use in respect of a 2x5 MHz block of spectrum in the 700 MHz Duplex;

“700 MHz EC Decision” means Decision (EU) 2016/687²⁷;

“Authorisation Regulations” means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations, 2011 (S.I. No. 335 of 2011);

“Communications Regulation Act 2002” means the Communications Regulation Act, 2002, (No. 20 of 2002), as amended;

“ComReg” means the Commission for Communications Regulation, established under section 6 of the Communications Regulation Act 2002;

“Electronic Communications Network” (or **“ECN”**) and **“Electronic Communications Service”** (or **“ECS”**) have the meanings assigned to them in the Framework Regulations;

“Temporary ECS Licence” means a licence of the type set out in draft form in Schedule 1 to the Temporary ECS Licence Regulations;

“Temporary ECS Licence Regulations” means the Wireless Telegraphy (TEMPORARY ELECTRONIC COMMUNICATIONS SERVICES LICENCES) Regulations, 202X, as set out in further draft form in Annex 3 to ComReg Document 20/27;

“Framework Regulations” means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011, (S.I. No. 333 of 2011);

“Minister” means the Minister of Communications, Climate Action and Environment;

“MNO” means a mobile network operator with an existing network in Ireland;

²⁷ Commission Implementing Decision of 28 April 2016 on the harmonisation of the 694-790 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use in the Union.

“**Relevant Spectrum**” means 700 MHz Duplex Blocks, 2.1 GHz Band Blocks, and 2.6 GHz Band Blocks;

“**RSPP Decision**” means Decision No 243/2012/EU²⁸;

“**Undertaking**” has the same meaning set out in the Framework Regulations; and

“**Wireless Telegraphy Act 1926**” means the Wireless Telegraphy Act, 1926 (No. 45 of 1926), as amended.

5.2 2. DECISION-MAKING CONSIDERATIONS

2. In arriving at its decisions in this document, ComReg has had regard to:

- i. the contents of, and the materials and reasoning referred to in, as well as the materials provided by respondents in connection with, the below-listed ComReg documents:
 - a) *18/60, 19/59R and 19/124 (insofar as they are relevant to the present decisions and, in particular, concerning the technical licence conditions for the Relevant Spectrum);*
 - b) *20/21;*
 - c) *20/23; and*
 - d) *20/27;*
- ii. the consultants’ reports commissioned, and the advice obtained by ComReg, in relation to the subject-matter of the documents and materials listed above (insofar as they are relevant to the present decisions and, in particular, concerning the technical licence conditions for the Relevant Spectrum) and, in particular, ComReg documents 19/59c and 19/124c
- iii. the powers, functions, objectives and duties of ComReg, including, without limitation those under and by virtue of:
 - a) *the Communications Regulation Act 2002, and, in particular, sections 10, 12 and 13 thereof;*
 - b) *the Framework Regulations, and, in particular, Regulations 13, 16 and 17 thereof;*
 - c) *the Authorisation Regulations, and, in particular, Regulations 9, 10, 11, 12, 15, 16, 17, 18(1)(c) and 19 thereof;*
 - d) *the RSPP Decision;*

²⁸ Decision No 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multiannual radio spectrum policy programme.

- e) *the 2.1 GHz Band EC Decision;*
- f) *the 2.6 GHz Band EC Decision;*
- g) *the 700 MHz EC Decision;*
- h) *Sections 5 and 6 of the Wireless Telegraphy Act, 1926; and*
- i) *the applicable Policy Directions made by the Minister under section 13 of the Communications Regulation Act 2002,*

and, noting that it has:

- j) *given all interested parties the opportunity to express their views and make their submissions in accordance with Regulation 11 of the Authorisation Regulations and Regulation 12 of the Framework Regulations,*

as set out in the various chapters of Document 20/27 and their supporting annexes.

5.3 3. DECISIONS

5.1 Having had regard to the above considerations, ComReg has decided:

5.2 subject to obtaining the consent of the Minister to the making by it of the Temporary ECS Licence Regulations, to make those regulations under section 6 of the Wireless Telegraphy Act 1926, prescribing relevant matters in relation to Temporary ECS Licences, including prescribing the form of the licences concerned, their duration and the conditions and restrictions subject to which they are granted;

700 MHz Duplex and 2.1GHz Bands

5.3 upon application properly being made to it by MNOs for Temporary ECS Licences with rights of use in the 700 MHz Duplex and 2.1 GHz Bands;

5.3.1 to select which MNOs will be granted Temporary ECS Licences in the 700 MHz Duplex and 2.1 GHz bands having regard to the principles generally described in Chapter 3 of Document 20/27 and further particularised in the Temporary ECS Licence Regulations, as made, and the material provided by applicants in support of their respective application, including the ability of the applicant to deliver services expeditiously using those rights of use; furthermore, and subject to the receipt of a valid and supported application from each MNO, to assign 2 x 10 MHz of 700 MHz Duplex to each MNO²⁹, but

²⁹ Specifically:

where ComReg reserves the right to make alternative assignments in line with its statutory objectives and duties;

2.6 to grant Temporary ECS Licences, under section 5 of the Wireless Telegraphy Act 1926 to such MNOs for the periods, and subject to the conditions and restrictions (including conditions as to suspension and withdrawal), prescribed in the Temporary ECS Licence Regulations, including the schedule to Temporary ECS Licences as currently set out in Annex 3 of Document 20/27;

2.6 GHz Band

5.4 upon application properly being made to it by MNOs for Temporary ECS Licences in respect of 2.6 GHz Band Blocks, and following consultation with the Irish Aviation Authority;

5.4.1 to select which MNOs will be granted Temporary ECS Licences with 2.6 GHz Band Blocks having regard to the principles generally described in Chapter 3 of Document 20/27 and further particularised in the Temporary ECS Licence Regulations, as made, and the material provided by applicants in support of their respective application; in particular, the proposed location of sites and confirmation that they will comply with the requirement to protect Aeronautical Primary Radars, if the aggregate demand for 2.6 GHz Band Blocks exceeds the amount available, ComReg shall decide the number of 2.6 GHz Band Blocks (if any) to award to each applicant, based on, among other things, the ability of the applicant to deliver services expeditiously using those rights of use;

5.4.2 to grant Temporary ECS Licences, under section 5 of the Wireless Telegraphy Act 1926 to such MNOs, where spectrum rights shall be assigned on a site by site basis, for the periods, and subject to the conditions and restrictions (including conditions as to suspension and withdrawal), prescribed in the Temporary ECS Licence Regulations, including the schedule to Temporary ECS Licences as currently set out in Annex 3 of Document 20/27;

5.4.3 to consider applications for the addition of sites to a Temporary ECS Licence granted in respect of rights of use in the 2.6 GHz Band Blocks from time to time on a first come, first served basis;

Licence Duration

-
- Eir: 703 to 713 MHz paired with 758 to 768 MHz;
 - Three: 713 to 723 MHz paired with 768 to 778 MHz; and
 - Vodafone: 723 to 733 MHz paired with 778 to 788 MHz.

- 5.5 to make the duration of a Temporary ECS Licence up to but no longer than 3 calendar months;
- 5.6 upon application being properly being having regard to the principles generally described in Chapter 3 of Document 20/27 and further particularised in the Temporary ECS Licence Regulations, and the material provided by applicants in support of their renewal, to renew a Temporary ECS Licence for a further period of up to but no longer than 3 calendar months; and
- 5.7 that any Temporary ECS Licence granted or renewed shall expire no later than 6 calendar months from the date of the Temporary ECS Licence Regulations.

5.4 4. STATUTORY POWERS NOT AFFECTED

- 4.1 Nothing in this document shall operate to limit ComReg in the exercise of its discretions or powers, or the performance of its functions or duties, or the attainment of objectives under any laws applicable to ComReg from time to time.

Chapter 6

6 Next Steps

- 6.1 Annex 2 contains an Application Form for a Temporary ECS Licence. This will also be published on ComReg's website as an editable PDF file.
- 6.2 ComReg intends, in the coming days, to seek the consent of the Minister for Communications, Climate Action and the Environment to issue Temporary ECS Licences.
- 6.3 Applicants can submit a completed Application Form to ComReg (together with supporting information and payment of the applicable fee) to the email address below as soon as ready. ComReg will process these applications when the regulations are made.
- 6.4 MNOs who submit a completed Application Form (to ComReg's satisfaction) and comply with the terms and conditions of the Licence, including payment of the applicable fee and provision of Appropriate Evidence, shall be granted a Temporary ECS Licence. MNOs should send their completed application form to:

licensing@comreg.ie

- 6.5 If ComReg receives correspondence on matters relating to this document and the consultation process generally, ComReg hereby gives notice that it will publish all material correspondence received in this regard subject to the provisions of ComReg's guidelines on the treatment of confidential information³⁰.

³⁰ ComReg Document 05/24 - Response to Consultation - Guidelines on the treatment of confidential information – Published 22 March 2005.

Annex: 1 Glossary

A1.1 Definitions

- A 1.1 The definitions in this glossary shall apply to this document as a whole.
- A 1.2 Where a term in this glossary is defined by reference to a definition in a section or paragraph and an explanation of that term is provided in this glossary, the latter explanation is for convenience only and reference should be made to the appropriate part of the document for the definitive meaning of that term in its appropriate context.
- A 1.3 Any reference to any provision of any legislation shall include any modification re-enactment or extension thereof.
- A 1.4 Terms defined in this consultation paper shall, unless the context otherwise requires or admits, have the meaning set out below:

| | |
|------------------|--|
| 3.6 GHz Band | The radio frequency spectrum in the range 3 400 MHz to 3 800 MHz |
| 700 MHz Band | The frequency range 694 – 790 MHz |
| 700 MHz Duplex | The frequency range 703-733 MHz paired with 758-788 MHz |
| 800 MHz Band | The frequency range 790 – 862 MHz |
| 900 MHz Band | The frequency range 880 – 915 MHz paired with 925 – 960 MHz |
| 2.1 GHz Band | The frequency ranges 1920-1980 MHz paired with 2110-2170 MHz |
| 2.3 GHz Band | The frequency range 2 300 – 2 400 MHz |
| 2.6 GHz Band | The frequency range 2 500 – 2 690 MHz |
| 2.6 GHz TDD Band | The frequency range 2 570 – 2 620 MHz |

| | |
|-----------------------------|---|
| 2.6 GHz FDD Band | The frequency range 2 500 – 2570 MHz paired with 2620 – 2690 MHz |
| 2.7 GHz Band | The frequency range 2 700 MHz to 2 900 MHz |
| Aeronautical Primary Radars | Means apparatus (including “Star 2000” and “TA10” models) providing primary aircraft detection used in airport surveillance networks at Dublin, Cork and Shannon airports |
| Apparatus | Licences means apparatus for wireless telegraphy as defined in section 2 of the Act of 1926 for terrestrial systems capable of providing Electronic Communications Services |
| Application Form | Annex 2 of this document |
| Appropriate Evidence | <p>Includes:</p> <ul style="list-style-type: none"> • the radio spectrum band applied for; • the name/identity of the site to be included in the licence; • the coordinates of the site (easting and northing); • equipment index reference; • antenna orientation (where appropriate); • antenna height (where appropriate); • coverage predications (where appropriate); • maximum EIRP for the site; • confirmation for each site that equipment including antennas are in place to be used in the respective band; • the key steps needed to bring the site or group of sites on air including the expected dates for this; and • for each equipment index reference, the terrestrial system, equipment description, manufacturer, make and model of the piece of equipment. |

| | |
|---------------------------------|--|
| 700 MHz Coordination Procedures | The document agreed by Eir, Three, Vodafone, 2RN and Virgin Media and submitted to ComReg in response to ComReg Document 20/23. This document is published in Annex 4. |
| COVID-19 | COVID-19 is a new illness that can affect your lungs and airways and is caused by a virus called coronavirus. |
| Draft Regulations | Regulations (WIRELESS TELEGRAPHY (TEMPORARY ELECTRONIC COMMUNICATIONS SERVICES LICENCES) REGULATIONS 2020) intended to be made by ComReg, subject to the consent of the Minister for Communications, Climate Action and Environment. |
| General Authorisation | An authorisation for an undertaking to provide an electronic communications network or service under and in accordance with Regulation 4 of the Authorisation Regulations. |
| Licence | A Temporary ECS Licence |
| Licensee | A holder of a Licence |
| MBSA2 | ComReg's Proposed Multi-Band Spectrum Award |
| Open Internet Regulation | Regulation (EU) 2015/2020 Article 3.3. |
| Proposed Approach | ComReg's consideration of the approach set out in Chapter 3 |
| Proposed Bands | Means the 700 MHz Duplex, 2.1 GHz Band and the 2.6 GHz Band |

| | |
|---|--|
| Proposed Multi-Band Spectrum Award (MBSA) | ComReg's proposed Multi-Band Spectrum Award. Further information is available at https://www.comreg.ie/industry/radio-spectrum/spectrum-awards/proposed-multi-band-spectrum-award/ |
| RIA | Regulatory Impact Assessment, an analysis of the likely effect of, and necessity of, a proposed new regulation or regulatory change. Such assessments are carried out in accordance with Document 07/56a - Guidelines on ComReg's approach to Regulatory Impact Assessment - August 2007 |
| SAF | Spectrum Access Fee |
| SUF | Spectrum Usage Fee |
| Spectrum right of use | Authorisation to use certain radio frequencies subject to such conditions and restrictions as may be prescribed in a licence or by any regulations made by ComReg under section 6 of the Act of 1926 |
| Temporary ECS Licence(s) | Means a licence of the type set out in draft form in Schedule 1 to the Temporary ECS Licence Regulations |
| Temporary ECS Licence Regulations | Means the Wireless Telegraphy (TEMPORARY ELECTRONIC COMMUNICATIONS SERVICES LICENCES Regulations, 2020, as set out in draft form in Annex 3 to this document |
| Temporary Situation | Means the temporary impact upon electronic communications networks and services from the extraordinary situation arising from the spread of the disease known COVID-19 |

A1.2 European and Governmental Bodies, Regulatory and Standardisation Organisations

| | |
|-------|---|
| BEREC | Body of European Regulators for Electronic Communications |
|-------|---|

| | |
|--------|---|
| ComReg | Commission for Communications Regulation |
| CEPT | Conférence européenne des Administration des postes et des télécommunications. In English, European Conference of Postal and Telecommunications Administrations |
| DCCAE | Department of Communications, Climate Action and the Environment |
| DEASP | Department of Employment Affairs and Social Protection |
| EC | European Commission |
| ECC | Electronic Communications Committee (of CEPT) |
| ECO | European Communications Office |
| EU | European Union |
| FCC | Federal Communications Commission |
| HSE | Health Service Executive |
| IAA | Irish Aviation Authority |
| IFT | Instituto Federal de Telecomunicaciones |
| ITU | International Telecommunication Union |
| WHO | World Health Organisation. |

A1.3 Primary and Secondary Legislation

| | |
|------|----------------------|
| S.I. | Statutory Instrument |
|------|----------------------|

| | |
|---|---|
| 2002 Act | The Communications Regulation Act 2002 (No. 20 of 2002), as amended ³¹ |
| Authorisation Regulations | European Communities (Electronic Communication Networks and Services) (Authorisation) Regulations 2011 (S.I. No 335 of 2011) |
| Directive 2002/77/EC | A European Commission Directive on competition in the markets for electronic communications networks and services |
| 2.6 GHz EC Decision / EC Decision 2008/477/EC | European Commission Decision on the harmonisation of the 2 500 - 2 690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community |
| 2.1 GHz EC Decision / EC Decision 2012/688/EU | European Commission Decision on the harmonisation of the frequency bands 1 920 – 1 980 MHz and 2 110 – 2 170 MHz for terrestrial systems capable of providing electronic communications services in the Community |
| 700 MHz EC Decision / EC Decision 2016/687/EU | European Commission Decision on the harmonisation of the 694 - 790 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use in the Union |
| EC Decision 2009/766/EC | European Commission Decision on the harmonisation of the 900 MHz and 1 800 MHz frequency band for terrestrial systems capable of providing pan-European electronic communications services in the Community |
| EC Decision 2011/251/EU | European Commission Decision, amending Decision 2009/766/EC, on the harmonisation of the |

³¹ Includes the Communications Regulation (Amendment) Act 2007 and the Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010.

| | |
|---|---|
| | 900 MHz and 1 800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community. |
| 2.3 GHz ECC Decision / ECC Decision ECC/DEC(14)02 | Electronic Communications Committee decision to harmonised technical and regulatory conditions for the use of the band 2 300 - 2 400 MHz for Mobile/Fixed Communications Networks (MFCN). |
| Framework Regulations | European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No 333 of 2011) |
| Specific Regulations | Specific Regulations has the same meaning as set out in Regulation 2 of the Framework Regulations |

A1.4 Glossary of Technical Terms

| | |
|-----|--|
| 3G | Third Generation Mobile System (e.g. UMTS) |
| CPI | Consumer Price Index |
| DTT | Digital Terrestrial Television |
| ECN | Electronic Communications Networks |
| ECS | Electronic Communications Service as defined under the Framework Regulations |
| FDD | Frequency Division Duplex |
| FWA | Fixed Wireless Access |
| GHz | Gigahertz (1 000 000 000 Hertz) |

| | |
|---------------------|--|
| Guard-band | An unused spectrum bandwidth separating channels to prevent interference |
| GSM | Global System for Mobile Communications |
| Hertz | Unit of Frequency |
| kHz | Kilohertz (1 000 Hertz) |
| LTE | Long Term Evolution of 3G |
| LTE Advanced / LTE+ | An evolution of LTE, having the capability to provide 4G services. |
| MFCN | Mobile/fixed communications networks |
| MHz | Megahertz (1 000 000 Hertz) |
| MNO | Mobile Network Operator |
| pdf | Power Flux Density (dBW/m ²) equals the interference threshold at radar receiver input (measured in dBW) minus the radar antenna gain (measured in dBi) plus $10 \log(4\pi/\lambda^2)$, where λ is the wavelength in meters |
| QoS | Quality of Service |
| TDD | Time Division Duplex |
| TD-LTE | Time Division – Long Term Evolution |
| UMTS | Universal Mobile Telecommunications System. |
| VPN | Virtual Private Network |
| VoLTE | Voice over Long Term Evolution |
| VOIP | Voice over Internet Protocol |

Annex: 2 Application Form

1 Notes for Applicants

1. The granting by the Commission for Communications Regulation (“ComReg”) of a Temporary Electronic Communications Service (“ECS”) Licence is governed by the Wireless Telegraphy (Temporary Electronic Communications Services Licences) Regulations 2020, S.I. No. [_____] of 2020 (the “Regulations”).¹ In particular, the Regulations detail the form and duration of, and the restrictions and conditions subject to which, Temporary ECS Licences are granted by ComReg.
2. Persons applying for a Temporary ECS Licence (“Applicants”) are also referred to ComReg Document 20/27 (the “Decision on Temporary ECS Licences”) for background on the licensing framework for new rights of use under the Regulations and for interpretation of the defined terms used herein.
3. In accordance with the Decision on Temporary ECS Licences, only existing mobile network operators may apply for a Temporary ECS Licence.
4. In line with Regulation 4 of the Regulations, this application form (“Application Form”) sets out the information required from Applicants in an application for a Temporary ECS Licence (“Application”).
5. As the Regulations have yet to be made by ComReg with the consent of the Minister for Communications, Climate Action and Environment (as required under section 37 of the Communications Regulation Act 2002), ComReg’s ability to grant any Temporary ECS Licence is subject to same.
6. A Temporary ECS Licence allows the Licensee to keep and have possession of, install, maintain, work and use Wireless Telegraphy Apparatus for terrestrial systems capable of providing electronic communications services in the 700 MHz Duplex, 2.1 GHz and 2.6 GHz Bands (“Apparatus”) in the part/s of those bands to which the Licence relates for the duration of the Licence.

¹ As currently set out in draft form in Annex 3 to ComReg Document 20/27.

7. A Temporary ECS licence is a “non-exclusive” Licence and all Apparatus licensed under a Temporary ECS Licence is required to comply with, among other things, the conditions of the Licence and the relevant European Commission (“EC”) Decisions for the 700 MHz Duplex, 2.1 GHz and 2.6 GHz Bands, including Decision (EU) 2016/687², Decision 2012/688/EC³ and Decision 2008/477/EC⁴ .
8. In order for an Application to be valid, the Applicant must properly and satisfactorily complete and submit all sections of the Application Form. In that regard, the Applicant **MUST**:
- Provide full Applicant Details as per Part 1;
 - Provide, in a separate document attached to the completed Application Form, details in relation to the factors identified in Regulation 4(2) of the Regulations, using the headings as set out in Part 2;
 - Provide details of the Apparatus which the Applicant seeks to be authorised to keep and have possession of, in Microsoft Excel format, using the headings set out in Part 3;
 - Provide a list of the locations at which the Applicant seeks and is sufficiently ready to be authorised to keep and have possession of the Apparatus, in Microsoft Excel in the format as detailed in Part 4;
 - Make payment of the Temporary ECS Licence Fee to the bank account identified in Part 5; and
 - Sign the Application Declaration Form (Part 6).
9. Completed Application Forms and accompanying documents (including Excel files and a separate document as required under Part 2) must be submitted to licensing@comreg.ie and the payment of the Temporary ECS Licence Fee to ComReg’s account in Part 5.

² Commission Implementing Decision (EU) 2016/687 of 28 April 2016 on the harmonisation of the 694-790 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use in the Union.

(<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016D0687&from=EN>)

³ Commission Implementing Decision of 5 November 2012 on the harmonisation of the frequency bands 1 920-1 980 MHz and 2 110-2 170 MHz for terrestrial systems capable of providing electronic communications services in the Union, (2012/688/EU).

(<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012D0688&from=EN>)

⁴ Commission Decision of 13 June 2008 on the harmonisation of the 2500 - 2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community, (2008/477/EC).

(<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008D0477&from=EN>)

2 Application Form

Part 1: Applicant Details

| | |
|---|--|
| Full Name of the company, firm or person in whose name the Licence is sought | |
| Trading name (If different from above) | |
| Company Registration Number (If limited company) | |
| Business address | |
| Contact name | |
| Contact phone number | |
| Contact e-mail for general matters relating to the Licence Contact e-mail to which the Licence can be sent (if different from above) | |

Part 2: Information in relation to the matters identified in Regulation 4(2) of the Regulations

Please provide details in relation to the following matters identified in Regulation 4(2), in a separate document, under the following headings:

1. **Network / capacity information and ability of the Applicant to provide ECS in the State:** available information regarding the extraordinary situation arising from COVID-19 and, in particular, as it may reasonably affect the Applicant's Electronic Communications Networks ("ECN"), including the capacity of same and the provision of relevant ECS by the Applicant in the State;
2. **How temporary rights of use would assist with the provision of ECS in the State:** available information regarding how the rights of use of radio frequencies applied for by the Applicant would reasonably and materially assist in alleviating the network / capacity constraints identified in (1).
3. **Lead time for the Applicant to make use of temporary frequencies:** available information regarding the lead time for the Applicant to effectively make use of such rights of use of radio frequencies⁵; and
4. **Risks to the provision and quality of existing ECS:** available information regarding the risks to the provision of existing ECS, and the quality of such existing provision, by the Applicant in making changes to its ECN to effectively make use of the rights of use of radio frequencies applied for.

ComReg reserves the right to seek clarifications and/or further information from the Applicant and to specify the timeframe within which such clarifications and/or further information must be provided and ComReg would highlight Regulation 4(3) in this regard.

⁵ For the sites listed in Part 4.

Part 3: Schedule of Apparatus

Please provide details of the Apparatus which the Applicant seeks to be authorised to keep and have possession of, in Microsoft Excel format, under the following headings:

| Band | Equipment Index Reference | Terrestrial System | Equipment Description | Manufacturer | Model |
|--|---------------------------|--------------------|-----------------------|--------------|-------|
| [700 MHz Duplex, 2.1 GHz, 2.6 GHz, as appropriate] | | | | | |

Part 4: Apparatus Location and Details

Please provide details of the locations of the Apparatus which the Applicant seeks to be authorised to keep and have possession of, in Microsoft Excel format, under the following headings:

| Band | Site Identity | Eastings | Northings | Equipment Index Reference | Maximum ERP |
|--|---------------|----------|-----------|---------------------------|-------------|
| [700 MHz Duplex, 2.1 GHz, 2.6 GHz, as appropriate] | | | | | |

Part 5: Payment of Temporary ECS Licence Fee

The Temporary ECS Licence Fee is €100 and is non-refundable.

Please provide separate payment of the Temporary ECS licence Fee to ComReg's nominated bank account, citing clearly in the narrative the name of the Applicant.

Transfers to ComReg's account should be made to:

Bank: Bank of Ireland, 2 College Green, Dublin 2, Ireland.
Account Number: 96614639
Sort Code: 90-00-17
BIC Code: BOFIIIE2D
IBAN No: IE96 BOFI 9000 1796 6146 39

Part 6: Application Declaration Form

Declaration by Applicant

Temporary ECS Licence

I hereby certify that the information provided in this Application is, to the best of my knowledge, true and complete and I accept that the provision of incorrect or misleading information, or mis-declarations in this form, may render this Application, and any Temporary ECS Licence granted on foot of this Application, null and void.

In accordance with the Wireless Telegraphy Act of 1926, as amended, I accept responsibility for the installation and maintenance of the Wireless Telegraphy apparatus.

I accept that the grant of a Temporary ECS Licence does not confer any right of ownership of the frequency spectrum to which the Licence relates, and agree to abide by all conditions of the Licence and any direction made by the Commission for Communications Regulation (ComReg) from time to time.

I confirm that the Applicant is fully aware that the Temporary ECS Licences are being made available solely to accommodate the claimed unanticipated spike in demand arising from the extraordinary situation relating to COVID-19, that all Temporary ECS Licences granted or renewed under the Regulations will expire on or before 6 months from the date of the Regulations and that the longer term questions of assignment of spectrum rights of use in the 700MHz Duplex and 2.6 GHz Band, liberalisation of rights of use in the 2.1 GHz Band and assignment of new rights of use in that band will be determined through such an award process as ComReg shall determine to be appropriate. I further confirm that the Applicant identified herein will take full account of this in making any investment or marketing decisions and will not seek to argue that any such decisions made as a result of the grant of a Temporary ECS Licence give it any expectation of favourable treatment with regards to access to liberalised rights of use in those bands.

I accept that ComReg may publish and/or make available information relating to Temporary ECS Licences and certain information relating to this Application may be contained in such publications.

I confirm that no change will be made in any of the foregoing without the prior approval of ComReg.

I certify that I am duly authorised by _____ to make
(company name)

this declaration and to sign on behalf of _____.
(company name)

Signature: _____

Name in Capital Letters Only: _____

Position: _____

Date: _____

Annex: 3 Draft temporary electronic communications services licensing regulations

STATUTORY INSTRUMENTS

S.I. No. _____ of 2020

Wireless Telegraphy (Temporary Electronic Communications Services Licences)
Regulations 2020

DRAFT

Wireless Telegraphy (Temporary Electronic Communications Services Licences)
Regulations 2020

The Commission for Communications Regulation, in exercise of the powers conferred on it by section 6(1) of the Wireless Telegraphy Act 1926 (No. 45 of 1926) as substituted by section 182 of the Broadcasting Act 2009 (No. 18 of 2009), and with the consent of the Minister for Communications, Climate Action and Environment in accordance with section 37 of the Communications Regulation Act 2002 (No. 20 of 2002), hereby makes the following Regulations:

Citation

1. These Regulations may be cited as the Wireless Telegraphy (Temporary Electronic Communications Services Licences) Regulations 2020.

Interpretation

2. (1) In these Regulations:

“2.1 GHz Band” means radio frequency spectrum in the range 1920 to 1980 MHz paired with radio frequency spectrum in the range 2110 to 2170 MHz;

“2.1 GHz Band Block” means a 5 MHz paired block of radio frequency spectrum in the 2.1 GHz Band;

“2.6 GHz Band” means radio frequency spectrum in the range 2500 to 2690 MHz;

“2.6 GHz Band FDD Frequency Generic Block” means a 5 MHz block of radio frequency spectrum in the range 2500 to 2570 MHz paired with a 5 MHz block of radio frequency spectrum in the range 2620 to 2690 MHz;

“2.6 GHz Band TDD Fixed Frequency Block (Lower)” means the 5 MHz unpaired block of radio frequency spectrum in the range 2570 to 2575 MHz;

“2.6 GHz Band TDD Fixed Frequency Block (Upper)” means a 5 MHz unpaired block of radio frequency spectrum in the range 2615 to 2620 MHz;

“2.6 GHz Band TDD Frequency Generic Block” means a 5 MHz unpaired block of radio frequency spectrum in the range 2575 to 2615 MHz;

“2.6 GHz Band Blocks” means the 2.6 GHz Band FDD Frequency Generic Blocks and the 2.6 GHz Band TDD Blocks;

“2.6 GHz Band TDD Blocks” means the 2.6 GHz Band TDD Fixed Frequency Block (Lower), 2.6 GHz Band TDD Fixed Frequency Block (Upper) and 2.6 GHz Band TDD Frequency Generic Blocks;

“700 MHz Duplex” means radio frequency spectrum in the range 703 to 733 MHz paired with radio frequency spectrum in the range 758 to 788 MHz;

“700 MHz Duplex Block” means a 5 MHz paired block of radio frequency spectrum in the 700 MHz Duplex;

“Act of 1926” means the Wireless Telegraphy Act 1926 (No. 45 of 1926);

“Act of 1972” means the Wireless Telegraphy Act 1972 (No. 5 of 1972);

“Act of 2002” means the Communications Regulation Act 2002 (No. 20 of 2002);

“Apparatus” in relation to Licences means apparatus for wireless telegraphy as defined in section 2 of the Act of 1926 for terrestrial systems capable of providing Electronic Communications Services;

“Authorisation Regulations” means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011);

“Commission” means the Commission for Communications Regulation established under the Act of 2002;

“Decision of 2008” means European Commission Decision (2008/477/EC) of 13 June 2008 on the harmonisation of the 2500-2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community;

“Decision of 2012” means European Commission Implementing Decision (2012/688/EU) of 5 November 2012 on the harmonisation of the frequency bands 1920-1980 MHz and 2110-2170 MHz for terrestrial systems capable of providing electronic communications services in the Union;

“Decision of 2016” means European Commission Implementing Decision (EU) 2016/687 of 28 April 2016 on the harmonisation of the 694-790 MHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services and for flexible national use in the Union;

“Electronic Communications Network” (“ECN”) and “Electronic Communications Service” (“ECS”) have the meanings assigned to them in the Framework Regulations;

“Equivalent Isotropically Radiated Power” (EIRP) means the product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna;

“FDD” means Frequency Division Duplex;

“Framework Regulations” means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011);

“General Authorisation” means an authorisation for an undertaking to provide an Electronic Communications Network or Electronic Communications Service under and in accordance with Regulation 4 of the Authorisation Regulations;

“Harmful Interference” has the meaning set out in the Framework Regulations;

“Lease” means the assignment by a Licensee (“the Lessor”) of some or all of a right of use for radio frequencies granted under a Licence for a period less than the remaining duration of the

right of use to another party (“the Lessee”), after which the right of use for radio frequencies reverts to the Lessor;

“Licence” means a non-exclusive licence granted under section 5 of the Act of 1926 in accordance with and subject to the matters prescribed in these Regulations to keep and have possession of Apparatus in a specified place in the State, being a Temporary Electronic Communications Services Licence;

“Licence Commencement Date” means the date, as specified in the Licence, upon which the Licence comes into effect;

“Licensee” means the holder of a Licence;

“Non-exclusive”, in relation to a Licence, means that the Commission is not precluded from authorising the keeping and having possession by persons other than the Licensee, on a Non-Interference and Non-Protected Basis, of apparatus for wireless telegraphy for the radio frequency spectrum specified in the Licence;

“Non-Interference and Non-Protected Basis” means that the use of apparatus for wireless telegraphy is subject to no Harmful Interference being caused to any Radiocommunication Service, and that no claim may be made for the protection of apparatus for wireless telegraphy used on this basis against Harmful Interference originating from Radiocommunication Services;

“Radio Equipment Regulations” means the European Union (Radio Equipment) Regulations 2017 (S.I. No. 248 of 2017);

“Radiocommunication Service” means a service as defined in the Radio Regulations of the International Telecommunication Union involving the transmission, emission or reception of radio waves for specific telecommunication purposes;

“TDD” means Time Division Duplex;

“Temporary Electronic Communications Services Licence” means a Licence in the form set out in Schedule 1 to keep and have possession of Apparatus, in accordance with and subject to the terms and conditions set out therein;

“Transfer” has the meaning set out in the Transfer Regulations;

“Transfer Regulations” means the Wireless Telegraphy (Transfer of Spectrum Rights of Use) Regulations 2014 (S.I. No. 34 of 2014); and

“Undertaking” has the same meaning set out in the Framework Regulations.

(2) A word or expression that is used in these Regulations and that is also used in the Act of 1926 has, unless the context otherwise requires, the same meaning in these Regulations that it has in that Act.

(3) A word or expression that is used in these Regulations and that is also used in the Act of 2002 has, unless the context otherwise requires, the same meaning in these Regulations that it has in that Act.

(4) A word or expression that is used in these Regulations and that is also used in the Framework Regulations or in the Authorisation Regulations has, unless the context otherwise requires, the same meaning in these Regulations that it has in those Regulations.

Licences to which these Regulations apply

3. (1) These Regulations apply to Temporary Electronic Communications Services Licences.

Application for the Grant and Form of Licences

4. (1) Application for the grant of a Licence shall be made by an Undertaking to the Commission in writing and in such form as may be determined by the Commission from time to time.

(2) The Commission may grant a Licence, following payment by the applicant of the relevant fee prescribed in Regulation 8, in accordance with the Authorisation Regulations and having regard to, among other things:

- (a) available information regarding the extraordinary situation arising from COVID-19 and, in particular, as it may reasonably affect Electronic Communications Networks and the provision of relevant Electronic Communications Services in the State;
- (b) available information regarding the impact of the extraordinary situation arising from COVID-19 upon the capacity of the Electronic Communications Network operated by the Undertaking, including the locations in the State where any capacity constraints are occurring or are likely to occur;
- (c) available information regarding how the rights of use of radio frequencies applied for by the Undertaking would reasonably and materially assist in alleviating the capacity constraints identified in sub-paragraph (b), including the lead time for the Undertaking to effectively make use of such rights of use of radio frequencies;
- (d) available information regarding the risks to the provision of existing Electronic Communications Services, and the quality of such existing provision, by the Undertaking in making changes to its Electronic Communications Network to effectively make use of the rights of use of radio frequencies applied for;
- (e) the need to encourage the efficient use and ensure the effective management of the radio frequency spectrum; and
- (f) the Commission's obligations and objectives in relation to competition for the provision of Electronic Communications Networks and Electronic Communications Services.

(3) An Undertaking who applies for the grant of a Licence shall furnish to the Commission such information as the Commission may reasonably require for the purposes of its functions under these Regulations, the Act of 1926, the Framework Regulations and/or the Authorisation Regulations, and if the Undertaking, without reasonable cause, fails to comply with this paragraph, the Commission may refuse to grant the Licence concerned to the Undertaking.

(4) A Licence to which these Regulations apply shall be in the form specified in Schedule 1, with such variation, if any, whether by addition, deletion or alteration as the Commission may

determine from time to time or in any particular case in accordance with the Authorisation Regulations.

Duration of Licences

5. (1) The commencement date and expiry date of a Licence shall be set by the Commission and specified in the Licence.

(2) The duration of any Licence granted under these Regulations shall be up to but no longer than three calendar months.

(3) Upon application being properly made in accordance with Regulation 4, the Commission may renew a Licence granted under these Regulations for a further period of up to but no longer than three calendar months.

(4) Any Licence granted or renewed under these Regulations shall expire no later than six calendar months from the date of these Regulations.

Conditions of Licences

6. (1) Any Licensee that is granted a Licence under these Regulations and to which these Regulations apply shall:

- (a) ensure that it complies with the conditions in its Licence and with these Regulations;
- (b) ensure that any Apparatus in the 700 MHz Duplex complies with the Decision of 2016, any Apparatus in the 2.1 GHz Band complies with the Decision of 2012, and any Apparatus in the 2.6 GHz Band complies with the Decision of 2008;
- (c) ensure that all Apparatus installed, maintained, possessed or kept under the Licence is capable of operating within the radio frequency spectrum specified in the Licence;
- (d) ensure that all Apparatus worked or used under the Licence is worked or used only in the radio frequency spectrum specified in the Licence;
- (e) ensure that it makes payment of the fee set out in and in accordance with Regulation 8;
- (f) furnish such information in respect of the Licence as may be requested by the Commission from time to time;
- (g) ensure that all Apparatus, or any part thereof, is installed, maintained, worked and used so as not to cause Harmful Interference;
- (h) ensure that all Apparatus, or any part thereof, complies with the Radio Equipment Regulations;
- (i) comply with any special conditions imposed under section 8 of the Act of 1972;

- (j) upon becoming aware of any event likely to materially affect its ability to comply with these Regulations, or any conditions set out or referred to in any Licence, notify the Commission of that fact in writing no later than 5 Working Days upon becoming aware;
- (k) comply with all obligations under relevant international agreements relating to the use of Apparatus or the frequencies to which they are assigned under a Licence; and
- (l) not Transfer or Lease any rights of use for radio frequencies attaching to a Licence.

Enforcement, Amendment, Withdrawal and Suspension

7. (1) Enforcement by the Commission of compliance by a Licensee with conditions attached to its Licence shall be in accordance with the Authorisation Regulations.

(2) The Commission may amend a Licence from time to time in accordance with the Authorisation Regulations having regard to, among other things, the factors set out in Regulation 4(2), and by giving the Licensee 5 days' notice in writing.

(3) A Licence may be suspended or withdrawn by the Commission in accordance with the Authorisation Regulations.

Licence Fees

8. (1) The fee for a Licence, or renewal of a Licence, is €100 and is non-refundable.

(2) Any payment to be paid by a Licensee under this Regulation shall be made by way of banker's draft or such other means and on such other terms, if any, as the Commission may decide.

Licensee to satisfy all legal requirements

9. (1) Licences granted pursuant to these Regulations do not grant to the Licensee any right, interest or entitlement other than to keep, have possession of, install, maintain, work and use Apparatus at a specified location or locations in the State.

SCHEDULE 1

WIRELESS TELEGRAPHY ACT, 1926

WIRELESS TELEGRAPHY (TEMPORARY ELECTRONIC COMMUNICATIONS SERVICES LICENCES) REGULATIONS 2020

Temporary Licence for terrestrial systems capable of providing Electronic Communications Services

Licence under section 5 of the Act of 1926 to keep and have possession of apparatus for wireless telegraphy for terrestrial systems capable of providing Electronic Communications Services.

The Commission for Communications Regulation, in exercise of the powers conferred on it by section 5 of the Act of 1926 hereby grants the following licence to [LICENSEE NAME] of [LICENSEE ADDRESS] (“the Licensee”).

The Licensee is hereby authorised to keep and have possession of apparatus for wireless telegraphy for terrestrial systems capable of providing Electronic Communications Services as specified in Part 2 of this Licence, subject to such apparatus being installed, maintained, worked and used in accordance with the terms, conditions and restrictions set out in the Wireless Telegraphy (Temporary Electronic Communications Services Licences) Regulations 2020 (S.I. No. of 2020) (“the Regulations”), including but not limited to, the following:

- (1) The Licensee shall ensure that it complies with all of the conditions contained within the Regulations and within Parts 1 to 4 of this Licence; and
- (2) The Licensee shall ensure that it makes payment of the fee detailed in the Regulations.

For the purpose of this Licence, the definitions set out in the Wireless Telegraphy (Temporary Electronic Communications Services Licences) Regulations 2020 apply.

This Licence shall come in to effect on **DD/MM/YYYY** (the “Licence Commencement Date”) and, subject to revocation, suspension or withdrawal, expires on **DD/MM/YYYY**.

Signed: _____

For and on behalf of the Commission for Communications Regulation

Date of Issue: _____

Part 1

Commencement and expiry dates of Spectrum Blocks

| Authorised Band | Name of Spectrum Block | Frequency Assigned to Spectrum Block | Commencement Date per Spectrum Block | Expiry Date per Spectrum Block |
|---|-------------------------------|---|---|---------------------------------------|
| <i>700 MHz Duplex, 2.1 GHz, 2.6 GHz, as appropriate</i> | <i>Block A, B, C etc.</i> | <i>From ——— MHz to ——— MHz</i> | <i>DD Month YYYY</i> | <i>DD Month YYYY</i> |

Part 2

The Apparatus to which this Licence applies

| Authorised Band | Equipment Index Reference | Terrestrial System | Equipment Description | Manufacturer | Model |
|--|----------------------------------|---------------------------|------------------------------|---------------------|--------------|
| <i>700 MHz Duplex, 2.1 GHz, 2.6 GHz as appropriate</i> | | | | | |

Part 3

Apparatus Location and Details

| Authorised Band | Site Identity | Eastings | Northings | Equipment Index Reference | Maximum EIRP |
|--|----------------------|-----------------|------------------|----------------------------------|---------------------|
| <i>700 MHz Duplex, 2.1 GHz, 2.6 GHz as appropriate</i> | | | | | |

Part 4

Licence Conditions

Section 1: General

Harmful Interference

1. (1) In the event of Harmful Interference, the affected Licensees shall exchange information with a view to resolving the Harmful Interference by mutual consent. Where resolution cannot be agreed between the affected Licensees, ComReg may mediate in accordance with its statutory functions, objectives and duties.

Section 2: Technical Conditions

Definitions

1. (1) The following additional definitions shall apply to this Licence:

“2RN” means RTÉ Transmission Network DAC (trading as 2rn);

“Aeronautical Primary Radars” means apparatus (including “Star2000” and “TA10” models) providing primary aircraft detection used in airport surveillance networks at Dublin, Cork and Shannon airports;

“Base Station” means Apparatus connected to a backhaul network which provides a Radiocommunication Service to Terminal Stations using spectrum in the 700 MHz Duplex, 2.1 GHz Band and 2.6 GHz Band;

“Block Edge Mask” or “BEM” is an emission mask that is defined as a function of frequency in relation to a ‘block edge’, the latter being the frequency boundary of a spectrum block for which rights of use are assigned to a Licensee. The BEM consists of several elements which are defined for certain measurement bandwidths.

“dBm” means decibels of power referenced to one milliwatt;

“Downlink” means transmissions from a Base Station to a Terminal Station;

“IAA” means the Irish Aviation Authority;

“Indoor Small Cell” means a Base Station with an EIRP of less than or equal to 24 dBm per 20 MHz carrier that is located indoors either within a residential or non-residential property;

“Inter-Licensee Synchronisation Procedure” means the synchronisation procedure set out in Section 3;

“MNO” means a mobile network operator with an existing network in Ireland;

“Power Flux Density limit” or pfd limit (dBW/m²) equals the interference threshold at radar receiver input (measured in dBW) minus the radar antenna gain (measured in dBi) plus $10 \log(4\pi/\lambda^2)$, where λ is the wavelength in meters;

“TDD-LTE” means the TDD variant of LTE (Long Term Evolution) technology;

“Terminal Station” means mobile user equipment and fixed customer premise equipment which communicate with a Base Station using spectrum in the 700 MHz Duplex, 2.1 GHz Band and 2.6 GHz Band;

“Uplink” means transmissions from a Terminal Station to a Base Station; and

“Virgin Media” means Virgin Media Ireland Limited.

Technical Conditions

2. (1) The 700 MHz Duplex

- (a) Only terrestrial systems compatible with the Decision of 2016 (as amended) can be worked and used in the 700 MHz Duplex.
- (b) The FDD mode of operation shall be used in the 700 MHz Duplex. The duplex spacing shall be 55 MHz with Terminal Station transmission (FDD uplink) located in the lower frequency band 703-733 MHz and Base Station transmission (FDD downlink) located in the upper frequency band 758-788 MHz.
- (c) The Licensee shall comply with all Memoranda of Understanding (‘MoU’)¹ agreed between the Commission and its neighbouring national regulatory authorities responsible for communications matters, in particular the Office of Communications (“Ofcom”) in the UK, or its successor, in relation to spectrum in the 700 MHz Duplex.
- (d) The Licensee shall comply with the 700 MHz Coordination Procedures as agreed to by the MNOs, 2RN and Virgin Media on 3 April 2020 and published by the Commission on 7 April 2020 as Annex 4 to Commission Document 20/27.

Base Stations

- (e) Within a 700 MHz Duplex Block assigned to the Licensee, the in-block power from a Base Station must not exceed a maximum mean EIRP of 64 dBm/5 MHz per antenna.
- (f) Outside of the 700 MHz Duplex Block(s) assigned to the Licensee, the Licensee shall comply with the out-of-block BEM as specified in Section B “*Technical conditions for base stations for terrestrial systems capable of providing*

¹ [Memorandum of Understanding](#) on frequency coordination between Ireland and the United Kingdom concerning the spectrum coordination of Land Mobile Radio Communication Networks in the frequency range 703 MHz to 2690 MHz, available at www.comreg.ie

electronic communications services within the 738-788 MHz frequency band” of the Annex to the Decision of 2016.

Terminal Stations

- (g) The maximum mean in-block power limit of 23 dBm for Terminal Stations shall apply².
- (h) The out-of-block technical conditions set out in Table 10 to Table 12 of the Annex to the Decision of 2016 shall apply.
- (i) where a Licensee holds more than 2×10 MHz in the 700 MHz Duplex and if this assignment is deployed starting at 703 MHz, the licensee shall not deploy a bandwidth greater than 10 MHz for Terminal Stations in order to meet the conditions as set out in Table 12 of the Annex to the Decision of 2016 to provide protection to the frequency range 470 - 694 MHz.

3.(1) The 2.1 GHz Band

- (a) Only terrestrial systems compatible with the Decision of 2012 (as amended) can be worked and used in the 2.1 GHz Band.
- (b) The duplex mode of operation shall be FDD. The duplex spacing shall be 190 MHz with Terminal Station transmission (FDD uplink) located in the lower part of the band starting at 1920 MHz and finishing at 1980 MHz and Base Station transmission (FDD downlink) located in the upper part of the band starting at 2110 MHz and finishing at 2170 MHz.
- (c) The Licensee shall comply with all Memoranda of Understanding ('MoU')³ agreed between the Commission and its neighbouring national regulatory authorities responsible for communications matters, in particular the Office of Communications ("Ofcom") in the UK, or its successor, in relation to the spectrum in the 2.1 GHz Band.

Base Stations

- (d) Within a 2.1 GHz Band Block assigned to the Licensee, the in-block radiated power from a Base Station transmitter in the downlink direction must not exceed an in-block EIRP power of 64 dBm/5 MHz per antenna.

² This power limit is specified as EIRP for Terminal Stations designed to be fixed or installed and as total radiated power (TRP) for Terminal Stations designed to be mobile or nomadic. This value is subject to a tolerance of up to + 2 dB, to take account of operation under extreme environmental conditions and production spread.

³ [Memorandum of Understanding](#) on frequency coordination between Ireland and the United Kingdom concerning the spectrum coordination of Land Mobile Radio Communication Networks in the frequency range 703 MHz to 2690 MHz, available at www.comreg.ie

- (e) Outside of the 2.1 GHz Band Block(s) assigned to the Licensee, the Licensee shall comply with the out-of-block BEM as specified in Table 1 and Table 2 of the Annex to the Decision of 2012.

Terminal Stations

- (f) The maximum mean in-block power limit over frequencies of FDD uplink of 24 dBm⁴ per 5 MHz for Terminal Stations shall apply⁵.

4. (1) The 2.6 GHz Band

- (a) Only terrestrial systems compatible with the Decision of 2008 (as amended) can be worked and used in the 2.6 GHz Band.
- (b) Within the 2.6 GHz Band FDD Frequency Generic Blocks, the duplex mode of operation is FDD, where the duplex spacing shall be 120 MHz with Terminal Station transmission (uplink) located in the lower part of the band starting at 2500 MHz (extending to 2570 MHz) and Base Station transmission (downlink) located in the upper part of the band starting at 2620 MHz.
- (c) Within the 2570-2620 MHz frequency range of the 2.6 GHz Band, the duplex mode of operation is TDD.
- (d) Licensees in the 2.6 GHz Band TDD Blocks are bound by the Inter-Licensee Synchronisation Procedure.
- (e) The Licensee shall comply with all Memoranda of Understanding ('MoU')⁶ agreed between the Commission and its neighbouring national regulatory authorities responsible for communications matters, in particular the Office of Communications ("Ofcom") in the UK, or its successor, in relation to 2.6 GHz Band.

Base Stations

⁴ For the determination of out of band emissions of terminals in CEPT Report 39 the maximum conducted transmit power of 23 dBm has been used as a reference.

⁵ This power limit is specified as EIRP for terminal stations designed to be fixed or installed and as TRP for terminal stations designed to be mobile or nomadic. EIRP and TRP are equivalent for isotropic antennas. It is recognised that this value may be subject to a tolerance defined in the harmonised standards to take account of operation under extreme environmental conditions and production spread.

⁶ [Memorandum of Understanding](#) on frequency coordination between Ireland and the United Kingdom concerning the spectrum coordination of Land Mobile Radio Communication Networks in the frequency range 703 MHz to 2690 MHz, available at www.comreg.ie

- (f) Within a 2.6 GHz Band FDD Frequency Generic Block and a 2.6 GHz Band TDD Frequency Generic Block assigned to the Licensee, the in-block EIRP from a Base Station transmitter in the downlink direction must not exceed a maximum in-block EIRP of 61 dBm/5 MHz.
- (g) Within the 2.6 GHz Band TDD Fixed Frequency Block (lower) and 2.6 GHz Band TDD Fixed Frequency block (upper) assigned to the Licensee, the in-block EIRP from a Base Station transmitter in the downlink direction must not exceed a maximum in-block EIRP of 25 dBm/5 MHz.
- (h) Outside of 2.6 GHz Band FDD Frequency Generic Block(s) and 2.6 GHz Band TDD Frequency Generic Block(s) assigned to the Licensee, the Licensee shall comply with the unrestricted out-of-block EIRP BEM as specified in Table 1 to Table 3 of the Annex to the Decision of 2008.
- (i) Outside of the 2.6 GHz TDD Band Fixed Frequency Block (Lower) and 2.6 GHz TDD Band Fixed Frequency Block (Upper) assigned to the Licensee, the Licensee shall comply with the restricted EIRP BEM as specified in Table 4 and Table 5 of the Annex to the Decision of 2008.
- (j) Licensees of the 2.6 GHz TDD Band Fixed Frequency Block (Lower) and 2.6 GHz TDD Band Fixed Frequency Block (Upper) acknowledge and accept that usage of these blocks are subject to a greater risk of interference from adjacent blocks.
- (k) For all 2.6 GHz Band Blocks and in cases where antennas are placed indoors. Alternative parameters in line with Table 5 of the Annex to the Decision of 2008 shall be implemented, provided that at geographical borders with other Member States, Table 1 of the Annex to the Decision of 2008 applies, and that Table 4 of the Annex to the Decision of 2008 remains valid nationwide.
- (m) Unless otherwise agreed between the Licensee and the IAA in writing, the Licensee shall ensure protection of all Aeronautical Primary Radars⁷, by:
- i. deploying Base Stations outside of exclusion zones defined in Figures 4.3, 4.5, 4.6 and 5.3 of the Plum Report (ComReg 19/124c)⁸; and
 - ii. complying with the relevant Power Flux Density (pfd) limits with respect to:

⁷ Aeronautical radar locations (Dublin, Shannon and Cork) and technical parameters are detailed in Plum Report, Document 19/59c and Document 19/124c, available at www.comreg.ie

⁸ Shape files (.SHP) representing these figures are available on www.comreg.ie

- I. the STAR2000 radars with locations as set out in Chapter 3 of Document 19/59c⁹ as follows:
 - A. an out-of-band Base Station pfd limit of -145 dBW/m²/MHz per operator to address impact of spurious MFCN emissions at the radar antenna; and
 - B. an in-band Base Station pfd limit of -83 dBW/m² per operator, to address the impact of blocking and intermodulation effects at radar receivers.
- II. the TA10 radar with a location as set out in Chapter 5 of Document 19/124c¹⁰ as follows:
 - A. an out-of-band Base Station pfd limit of -156 dBW/m²/MHz per operator to address the impact of spurious MFCN emissions at the radar antenna; and
 - B. an in-band Base Station pfd limit of -93 dBW/m² per operator, to address the impact of blocking and intermodulation effects at radar receivers.

(n) For deployments in compliance with condition (m) above, the Licensee shall nominate a point of contact for coordination with the IAA and provide written notification to the IAA of any 2.6 GHz Band deployments at least 48 hours in advance of their deployment, and provide such information on any 2.6 GHz Band deployments as may reasonably be required by the IAA, including information on antenna height, antenna orientation, and predicted coverage plots.

Terminal Stations

(o) The maximum mean in-block power (including Automatic Transmitter Power Control range) of 31 dBm/5 MHz TRP, and 35 dBm/5 MHz EIRP, shall apply to Terminal Stations¹¹.

Section 3: Inter-Licensee Synchronisation Procedure

This Section 3 applies only to Licensees who have been assigned 2.6 GHz Band TDD Blocks.

⁹ ComReg Document 19/59c, available at www.comreg.ie

¹⁰ ComReg Document 19/124c, available at www.comreg.ie

¹¹ EIRP should be used for fixed or installed terminal stations and the TRP should be used for the mobile or nomadic terminal stations. TRP is a measure of how much power the antenna actually radiates. The TRP is defined as the integral of the power transmitted in different directions over the entire radiation sphere.

Definitions

1. (1) The following additional definitions shall apply in this section:

“Default Frame Structure” means the frame structure as detailed in Figure 1 below;

“Other Frame Structure” means a frame structure other than the Default Frame Structure;

“Other Frame Structure” means a frame structure other than the Default Frame Structure;

“Unrestrictive BEM” means: Operators utilising the Default Frame Structure on their network (and having a common reference phase clock with adjacent channel operators¹²) are subject to the Unrestrictive BEM specified in the Annex of the Decision of 2008, “B. Unrestrictive BEM for Base Stations”.

“Restrictive BEM” means: Operators utilising the Other Frame Structure (or failing to synchronise with adjacent channel networks for any other reason) are subject to the Restrictive BEM specified in the Annex of the Decision of 2008, “C. *Restricted BEM for Base Stations*” and “B. *Unrestrictive BEM for Base Stations*”¹³.

Introduction

2. (1) Licensees with 2.6 GHz Band TDD Blocks shall be bound by the inter-Licensee synchronisation procedure set out in this Section 3.

(2) Licensees shall co-operate in such a way that one network deployment within spectrum in the 2.6 GHz Band does not cause Harmful Interference to that of another Licensee.

(3) This procedure sets out the circumstances in which Licensees may use the Unrestrictive BEM and the Restrictive BEM, so as to minimise the risk of Harmful Interference to other Licensees.

Conditions for using the Unrestrictive BEM

3. (1) Default Frame Structure - The technical conditions for Unrestrictive BEM shall apply where a Licensee’s Base Station complies with the Default Frame Structure outlined below:

- (a) Transmissions from a Licensee’s Base Station(s) shall have a frame structure as shown in Figure 1. Indicated timeslots (or subframes) must not be allocated to anything other than Downlink (D) and Uplink (U)

¹² Each operator needs to ensure the start of frame is aligned with adjacent channel operators above and below its assignment

¹³ It is important to note that, in order to meet the restrictive mask, operators would likely have to adopt guard bands within their assignment.

transmissions. ‘S’ denotes a special subframe. TD-LTE frame configuration 2 (Downlink: Uplink, 3:1) with special subframe configuration 6 or equivalent frame structures whose transmit and receive periods are aligned with this configuration are permitted;

- (b) Timeslots shall have a duration of 1 millisecond; and
- (c) Licensees shall ensure that frames start at a common reference time (+/- 1.5 μ s) so that all Licensees’ frames are aligned and transmissions synchronised.

| DL/UL ratio | Timeslot or Subframe number | | | | | | | | | |
|-------------|-----------------------------|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3:1 | D | S | U | D | D | D | S | U | D | D |

Figure 1: Default Frame Structure

Conditions for using the Restrictive BEM

4. (1) Other Frame Structure — the technical conditions for Restrictive BEM shall apply where a Licensee’s Base Station complies with the Other Frame Structure as outlined below:

- (a) All frame configurations that are not compatible with TD-LTE frame configuration 2 (3:1) with special sub-frame configuration 6 or equivalent frame structure whose transmit and receive periods are aligned with this configuration are permitted;
- (b) Licensees shall co-operate to minimise Harmful Interference caused by sub-frame overlaps if different technologies are used; and
- (c) Licensees using the Restrictive BEM shall not cause Harmful Interference to those Licensees’ networks that use the Default Frame Structure (or equivalent). Achieving this may include applying internal guard bands and/or reduced in block power levels in blocks adjacent to those Licensees’ networks that use the Default Frame Structure (or equivalent).

Indoor Small Cells

5. (1) Indoor Small Cells with an EIRP not exceeding 24dBm for indoor domestic and other indoor locations are exempted from synchronisation restrictions. The Unrestrictive BEM set out in this Section applies to such Indoor Small Cells on the condition that they do not cause Harmful Interference to any other Licensees.

Section 4: Coverage Requirements

1. Coverage at specific locations in the State

| Coverage | Location | Obligation |
|-----------------|---|--|
| Outdoors | Specific locations in relation to the extraordinary situation arising from COVID-19 as may be determined from time to time by the Government and communicated to the Commission by the Department of Communications, Climate Action and the Environment | Best efforts using all rights of use available to the Licensee |

Table 1: Outdoor coverage obligations at specific locations in relation to the extraordinary situation arising from COVID-19

GIVEN under the official seal of the Commission for Communications Regulation,

day of 2020

Chairperson,

For and on behalf of the Commission for Communications Regulation

The Minister for Communications, Climate Action and Environment, in accordance with Section 37 of the Communications Regulation Act, 2002, consents to the making of the foregoing Regulations.

GIVEN under the Official Seal of the Minister for Communications, Climate Action and Environment,

day of 2020

Richard Bruton

Minister for Communications, Climate Action and Environment

DRAFT

Explanatory Note

(This note is not part of the Instrument and does not purport to be a legal interpretation.)

These Regulations prescribe matters in relation to temporary licences for apparatus for wireless telegraphy for terrestrial systems capable of providing Electronic Communications Services in the 700 MHz Duplex, the 2.1 GHz, the 2.6 GHz Bands to address the temporary impact upon Electronic Communications Networks and Electronic Communications Services from the extraordinary situation arising from COVID-19.

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Annex: 4 700 MHz Coordination Procedures

Covid-19: Temporary Spectrum Management Measures

700MHz Coordination Procedures

Background

In the context of the Government Stay at Home policy to reduce spread of Covid-19, Electronic Communications Networks have seen overall growth in traffic and changing patterns of use. The three Mobile Access Network operators (MNOs) requested that ComReg assign additional spectrum or modify existing assignments in the 700MHz, 2,100MHz and 2,600MHz bands on a temporary basis in order to increase network capacity to meet this demand. ComReg consulted on the request in document 20/21, and published responses received in document 20/23.

Some concerns have arisen that the rapid introduction of new services in the 700MHz band might cause interference to broadcasting services operated by RTE/2RN; to existing mobile services; or to the Virgin Media cable network.

The purpose of this document is to record the procedures agreed between the three MNOs, 2RN and Virgin Media to ensure that the temporary introduction of services in the 700MHz band avoids harmful interference to existing services.

Section 1: Coordination procedures with RTE and other MNOs

General Principles

In general, the principle adopted is that the introduction of temporary services in the 700MHz band should not cause harmful interference to existing services, but that where there is only a very small likelihood of interference being caused then MNOs should be free to deploy services.

Detection of interference might not be straightforward under the current circumstances, so it is agreed that an MNO deploying service in the 700MHz band will share information about the location and technical characteristics of each with the other relevant parties in advance.

Where the introduction of a 700MHz service is reasonably believed to cause interference to an existing service, then it shall be the responsibility of the MNO introducing the new 700MHz carrier to take steps to eliminate the interference. The MNO can request that the party receiving interference make adjustments to reduce the impact of the interference.

These procedures apply to the temporary assignment period only.

Specific Procedures

Each party will nominate a single point of contact (SPOCs) for the purpose of coordinating the introduction of temporary services in the 700MHz band. Those SPOCs will meet at least once per week (by conference call) to resolve any matters arising in relation to the impact of temporary use of 700MHz service on each other's networks.

Coordination with RTE/2RN

Each MNO will notify RTE/2RN in advance of the activation of services in the 700MHz band, providing technical details of each Base Station, including specific location.

Coordination with other MNOs

Each MNO will notify the other two MNOs in advance of the activation of services in the 700MHz band, providing technical details of each Base Station, including specific location.

- Responsibility lies with the activating operator to:
 - “Lock down” the cells suspected of causing degradation to allow the impacted operator to verify that the degradation has been removed
 - Provide a corrective action plan to be implemented before potential re-activation (e.g. parameter changes, power reduction, carrier bandwidth reduction or on site works to improve site performance)
 - Those cells may be unlocked once the first corrective action is implemented, and the analysis phase is to restart
- All operators to agree to take a pragmatic view of performance KPIs and not to highlight marginal changes as a cause for lockdown of another operator’s technology.
- As an initial test, a cluster of up to 10 Base Stations will be brought into service and MNOs will respectively review the impact on their own network.

Section 2: Coordination with Virgin Media

General Principles

In general, the principle adopted is that the introduction of temporary services in the 700MHz band should not cause service impacting interference. There will be coordination between MNOs that need to activate the 700MHz band and Virgin Media to identify the scale of interference and to develop methods to prevent this interference from occurring.

These procedures apply to the temporary assignment period only.

Specific Procedures

Each party will nominate two points of contact for the purpose of coordinating the introduction of temporary services in the 700MHz band.

Those SPOCs will meet at least once per week (by conference call) to resolve any matters arising in relation to the impact of temporary use of 700MHz service on each other’s networks.

Coordination with Virgin Media

Each MNO will be able to use the 700 MHz band anywhere that is at least 2km outside of the Virgin Media network and to use the 2.1GHz and 2.6 GHz bands anywhere without objection from Virgin Media.

Virgin Media agrees to provide maps to MNOs that identify the footprint of Virgin Media’s network including an appropriate buffer zone.

In consideration of MNO activating sites within 2km of the VM network:

The MNO and Virgin Media agree to engage in pilot trials to assess

1. the risk and/or impact of interference with Virgin Media Broadband service
2. possible steps to mitigate interference, including the identification of exclusion zones which may correspond to the footprint of the VM Network and appropriate buffer zone.

Where parties have agreed mitigation, MNOs agree to activate the 700MHz band within an appropriate buffer zone on an agreed rollout plan with Virgin Media. Where modifications of the rollout plan are required, parties agree to work together in good faith and MNOs will provide advance notice of activation to Virgin Media. Where MNOs proceed to activate the 700MHz Band on sites, respecting the agreed mitigation measures, the parties will engage constructively if it appears a site transmitting at 700MHz is causing service impacting interference to the Virgin Media broadband network. MNOs will cease using the 700MHz band at that site as quickly as possible upon notice by Virgin Media. The 700MHz band must not be reactivated at that site until the service impacting interference has been eradicated.

If there is evidence of service impacting interference from the VM network on the network of a MNO in areas where the 700MHz band is activated, MNOs agree to inform VM of the interference with details including: Site Reference no. and location, and the level of interference. MNOs will not expect Virgin Media to take any action during the period over which the temporary spectrum allocation is made.

Where no mitigation can be agreed between MNOs and VM, activation of the 700MHz band within an agreed buffer zone will not take place until an agreement has been reached.

Parties will agree to review mitigation measures if the temporary licences are extended.

This coordination procedure has been agreed by the following companies:

Eir, Three Ireland, Vodafone Ireland, 2RN, Virgin Media. 3rd April 2020

Annex: 5 Legal Framework and Statutory Objectives

- A 5.1 The Communications Regulation Act 2002 (as amended by the Communications Regulation (Amendment) Act 2007) (the “2002 Act”), the EU Common Regulatory Framework (including the Framework and Authorisation Directives³² as transposed into Irish law by the corresponding Framework and Authorisation Regulations³³), and the Wireless Telegraphy Acts 1926 to 2009³⁴ set out, amongst other things, powers, functions, duties and objectives of ComReg that are relevant to the management of the radio frequency spectrum in Ireland and to this consultation document.
- A 5.2 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, Regulation 16 of the Framework Regulations and the provisions of Article 8a of the Framework Directive. ComReg is to carry out its functions effectively, and in a manner serving to ensure that the allocation and assignment of radio frequencies is based on objective, transparent, non-discriminatory and proportionate criteria.

³² Directive No. 2002/21/EC of the European Parliament and of the Council of 7 March 2002 (as amended by Regulation (EC) No. 717/2007 of 27 June 2007, Regulation (EC) No. 544/2009 of 18 June 2009 and Directive 2009/140/EC of the European Parliament and Council of 25 November 2009) (the “Framework Directive”) and Directive No. 2002/20/EC of the European Parliament and of the Council of 7 March 2002 (as amended by Directive 2009/140/EC) (the “Authorisation Directive”).

³³ The European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011) and the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011) respectively.

³⁴ The Wireless Telegraphy Acts 1926 to 1988 and Sections 181 (1) to (7) and (9) and Section 182 of the Broadcasting Act 2009.

- A 5.3 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 powers, functions, duties and objectives 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.
- A 5.4 All references in this annex to enactments are to the enactment as amended at the date hereof, unless the context otherwise requires.

New European Electronic Communications Code

- A 5.5 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.
- A 5.6 The EECC replaces the EU Common Regulatory Framework adopted in 2002 (and amended in 2009) under which ComReg has regulated electronic communications since 2003.
- A 5.7 With some limited exceptions (see Article 124 of the EECC), Member States have until 21 December 2020 to transpose the EECC into national law.³⁵ Until then, the existing EU Common Regulatory Framework will continue to apply. However, in developing its proposals for the Proposed Award, ComReg is mindful of the EECC.
- A 5.8 ComReg understands that the DCCA will be responsible for the transposition of the EECC and will assist as appropriate.

A2.1 Primary Objectives and Regulatory Principles under the 2002 Act and Common Regulatory Framework

- A 5.9 ComReg's primary objectives in carrying out its statutory functions in the context of electronic communications are to:

³⁵ With the exception of Articles 53(2), (3) and (4), and Article 54 (see Article 124).

- promote competition³⁶;
- contribute to the development of the internal market³⁷;
- promote the interests of users within the Community³⁸;
- ensure the efficient management and use of the radio frequency spectrum in Ireland in accordance with a direction under section 13 of the 2002 Act³⁹; and
- unless otherwise provided for in Regulation 17 of the Framework Regulations, take the utmost account of the desirability of technological neutrality in complying with the requirements of the Specific Regulations⁴⁰ in particular those designed to ensure effective competition⁴¹.

A2.1.1 Promotion of Competition

A 5.10 Section 12(2)(a) of the 2002 Act requires ComReg to take all reasonable measures which are aimed at the promotion of competition, including:

- ensuring that users, including disabled users, derive maximum benefit in terms of choice, price and quality;
- ensuring that there is no distortion or restriction of competition in the electronic communications sector; and

³⁶ Section 12 (1)(a)(i) of the 2002 Act.

³⁷ Section 12 (1)(a)(ii) of the 2002 Act.

³⁸ Section 12(1)(a)(iii) of the 2002 Act.

³⁹ Section 12(1)(b) of the 2002 Act. Whilst this objective would appear to be a separate and distinct objective in the 2002 Act, it is noted that, for the purposes of ComReg's activities in relation to electronic communications networks and services ("ECN" and "ECS"), Article 8 of the Framework Directive identifies "*encouraging efficient use and ensuring the effective management of radio frequencies (and numbering resources)*" as a sub-objective of the broader objective of the promotion of competition.

⁴⁰ The 'Specific Regulations' comprise collectively the Framework Regulations, the Authorisation Regulations, the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011), the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2011 (S.I. 337 of 2011) and the European Communities (Electronic Communications Networks and Services) (Privacy and Electronic Communications) Regulations 2011 (S.I. No. 336 of 2011).

⁴¹ Regulation 16(1)(a) of the Framework Regulations.

- encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources.

A 5.11 In so far as the promotion of competition is concerned, Regulation 16(1)(b) of the Framework Regulations also requires ComReg to:

- ensure that elderly users and users with special social needs derive maximum benefit in terms of choice, price and quality, and
- ensure that, in the transmission of content, there is no distortion or restriction of competition in the electronic communications sector.

A 5.12 Regulation 9(11) of the Authorisation Regulations also provides that ComReg must ensure that radio frequencies are efficiently and effectively used having regard to section 12(2)(a) of the 2002 Act and Regulations 16(1) and 17(1) of the Framework Regulations. Regulation 9(11) further provides that ComReg must ensure that competition is not distorted by any transfer or accumulation of rights of use for radio frequencies and, for this purpose, ComReg may take appropriate measures such as mandating the sale or the lease of rights of use for radio frequencies.

A2.1.2 Contributing to the Development of the Internal Market

A 5.13 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:

- removing remaining obstacles to the provision of ECN, ECS and associated facilities at Community level;
- encouraging the establishment and development of trans-European networks and the interoperability of transnational services and end-to-end connectivity; and
- 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 5.14 In so far as contributing to the development of the internal market is concerned, Regulation 16(1)(c) of the Framework Regulations also requires ComReg to co-operate with the Body of European Regulators for Electronic Communications (“BEREC”) in a transparent manner to ensure the development of consistent regulatory practice and the consistent application of EU law in the field of electronic communications.

A2.1.3 Promotion of Interests of Users

A 5.15 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.

A 5.16 In so far as promotion of the interests of users within the EU is concerned, Regulation 16(1)(d) of the Framework Regulations also requires ComReg to:

- address the needs of specific social groups, in particular, elderly users and users with special social needs, and
- promote the ability of end-users to access and distribute information or use applications and services of their choice.

A2.1.4 Regulatory Principles

A 5.17 In pursuit of its objectives under Regulation 16(1) of the Framework Regulations and section 12 of the 2002 Act, ComReg must apply objective, transparent, non-discriminatory and proportionate regulatory principles by, amongst other things:

- promoting regulatory predictability by ensuring a consistent regulatory approach over appropriate review periods;
- ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing ECN and ECS;
- safeguarding competition to the benefit of consumers and promoting, where appropriate, infrastructure-based competition;
- 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 competition and consumers that exist in the various geographic areas within the State; and
- imposing ex-ante regulatory obligations only where there is no effective and sustainable competition and relaxing or lifting such obligations as soon as that condition is fulfilled.

A2.1.5 BEREC

A 5.18 Under Regulation 16(1)(3) of the Framework Regulations, ComReg must:

- having regard to its objectives under section 12 of the 2002 Act and its functions under the Specific Regulations, actively support the goals of BEREC of promoting greater regulatory co-ordination and coherence; and
- take the utmost account of opinions and common positions adopted by BEREC when adopting decisions for the national market.

A2.1.6 Other Obligations under the 2002 Act

A 5.19 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;⁴²
- have regard to international developments with regard to the radio frequency spectrum⁴³; 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.⁴⁴

A2.1.7 Policy Directions⁴⁵

A 5.20 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.

⁴² Section 12(3) of the 2002 Act.

⁴³ Section 12(5) of the 2002 Act.

⁴⁴ Section 12(6) of the 2002 Act.

⁴⁵ 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 5.21 The Policy Directions which are most relevant in this regard include the following:

Policy Direction No.3 on Broadband Electronic Communication Networks

A 5.22 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 5.23 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 5.24 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 5.25 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 5.26 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 5.27 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 5.28 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

A2.2 Other Relevant Obligations under the Framework and

Authorisation Regulations

A2.2.1 Framework Regulations

Regulation 17

A 5.29 Regulation 17 of the Framework Regulations governs the management of radio frequencies for ECS. Regulation 17(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 and Regulation 16 of the Framework Regulations and the provisions of Article 8a of the Framework Directive, ensure:

- the effective management of radio frequencies for ECS;
- that spectrum allocation used for ECS and issuing of general authorisations or individual rights of use for such radio frequencies are based on objective, transparent, non-discriminatory and proportionate criteria; and
- ensure that harmonisation of the use of radio frequency spectrum 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 economies of scale and interoperability of 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 the EU.

A 5.30 Regulation 17(2) provides that, unless otherwise provided in Regulation 17(3), ComReg must ensure that all types of technology used for ECS may be used in the radio frequency bands that are declared available for ECS in the Radio Frequency Plan published under Section 35 of the 2002 Act in accordance with EU law.

A 5.31 Regulation 17(3) provides that, notwithstanding Regulation 17(2), 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:

- avoid harmful interference;
- protect public health against electromagnetic fields;

- ensure technical quality of service;
- ensure maximisation of radio frequency sharing;
- safeguard the efficient use of spectrum; or
- 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 17(6).

A 5.32 Regulation 17(4) requires that, unless otherwise provided in Regulation 17(5), ComReg must ensure that all types of ECS may be provided in the radio frequency bands, declared available for ECS in the Radio Frequency Plan published under Section 35 of the Act of 2002 in accordance with EU law.

A 5.33 Regulation 17(5) 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 5.34 Regulation 17(6) requires that measures that require an ECS to be provided in a specific band available for ECS must be justified in order to ensure the fulfilment of a general interest objective as defined by or on behalf of the Government or a Minister of the Government in conformity with EU law such as, but not limited to:

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

A 5.35 Regulation 17(7) 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 defined by or on behalf of the Government or a Minister of the Government.

- A 5.36 Regulation 17(8) provides that ComReg must, in accordance with Regulation 18, regularly review the necessity of the restrictions referred to in Regulations 17(3) and 17(5) and must make the results of such reviews publicly available.
- A 5.37 Regulation 17(9) provides that Regulations 17(2) to (7) only apply to spectrum allocated to be used for ECS, general authorisations issued and individual rights of use for radio frequencies granted after 1 July 2011. Spectrum allocations, general authorisations and individual rights of use which already existed on 1 July 2011 are subject to Regulation 18 of the Framework Regulations.
- A 5.38 Regulation 17(10) provides that ComReg may, having regard to its objectives under Section 12 of the 2002 Act and Regulation 16 and its functions under the Specific Regulations, lay down rules in order to prevent spectrum hoarding, in particular by setting out strict deadlines for the effective exploitation of the rights of use by the holder of rights and by withdrawing the rights of use in cases of non-compliance with the deadlines. Any rules laid down under this Regulation must be applied in a proportionate, non-discriminatory and transparent manner.
- A 5.39 Regulation 17(11) requires ComReg to, in the fulfilment of its obligations under that Regulation, respect relevant international agreements, including the ITU-RR and any public policy considerations brought to its attention by the Minister.

Regulation 23 on security and integrity and Regulation 24 on implementation and enforcement of Regulation 23

A 5.40 Regulation 23 provides:

23. (1) Undertakings providing public communications networks or publicly available electronic communications services shall take appropriate technical and organisational measures to appropriately manage the risks posed to security of networks and services. In particular, measures shall be taken to prevent and minimise the impact of security incidents on users and interconnected networks.

(2) The technical and organisational measures referred to in paragraph (1) shall, having regard to the state of the art, ensure a level of security appropriate to the risk presented.

(3) Undertakings providing public communications networks shall take all appropriate steps to guarantee the integrity of their networks,

thereby ensuring the continuity of supply of services provided over those networks.

(4) (a) An undertaking providing public communications networks or publicly available electronic communications services shall notify the Regulator in the event of a breach of security or loss of integrity that has a significant impact on the operation of networks or services.

(b) Where the Regulator receives a notification under subparagraph (a), it shall inform the Minister of the said notification and, with the agreement of the Minister, it shall also, where appropriate, inform the national regulatory authorities in other Member States and ENISA.

(c) Where it is considered that it is in the public interest to do so the Regulator, with the agreement of the Minister, may inform the public in relation to the breach notified under subparagraph (a) or require the undertaking to inform the public accordingly.

(5) The Regulator shall annually submit a summary report to the Minister, the European Commission and EINSAs on the notifications received and the actions taken in accordance with paragraph (4).

(6) An undertaking that fails to comply with the requirements of paragraph (4)(a) or (c) commits an offence.

A 5.41 Regulation 24 provides:

24. (1) For the purpose of ensuring compliance with Regulation 23 (1), (2) and (3), the Regulator may issue directions to an undertaking providing public communications networks or publicly available electronic communications services, including directions in relation to time limits for implementation.

(2) The Regulator may require an undertaking providing public communications networks or publicly available electronic communications services to—

(a) provide information needed to assess the security or integrity of their services and networks, including documented security policies, and

(b) submit to a security audit to be carried out by a qualified independent body nominated by the Regulator and make the results of the audit available to the Regulator and the Minister. The cost of the audit is to be borne by the undertaking.

(3) An undertaking in receipt of a direction under paragraph (1) shall comply with the direction.

(4) An undertaking that fails to comply with a direction under paragraph (1) or a requirement under paragraph (2) commits an offence.

A2.2.2 Authorisation Regulations

Decision to limit rights of use for radio frequencies

A 5.42 Regulation 9(2) of the Authorisation Regulations provides that ComReg may grant individual rights of use for radio frequencies by way of a licence where it considers that one or more of the following criteria are applicable:

- it is necessary to avoid harmful interference;
- it is necessary to ensure technical quality of service;
- it is necessary to safeguard the efficient use of spectrum; or
- it is necessary to fulfil other objectives of general interest as defined by or on behalf of the Government or a Minister of the Government in conformity with EU law.

A 5.43 Regulation 9(10) of the Authorisation Regulations provides that ComReg must not limit the number of rights of use for radio frequencies to be granted except where this is necessary to ensure the efficient use of radio frequencies in accordance with Regulation 11.

A 5.44 Regulation 9(7) also provides that:

- where individual rights of use for radio frequencies are granted for a period of 10 years or more and such rights may not be transferred or leased between undertakings in accordance with Regulation 19 of the Framework Regulations, ComReg must ensure that criteria set out in Regulation 9(2) apply for the duration of the rights of use, in particular upon a justified request from the holder of the right.
- where ComReg determines that the criteria referred to in Regulation 9(2) are no longer applicable to a right of use for radio frequencies, ComReg must, after a reasonable period and having notified the holder of the individual rights of use, change the individual rights of use into a general authorisation or must ensure that the individual rights of use are made transferable or leasable between undertakings in accordance with Regulation 19 of the Framework Regulations.

Publication of procedures

A 5.45 Regulation 9(4)(a) of the Authorisation Regulations requires that ComReg, having regard to the provisions of Regulation 17 of the Framework Regulations, establish open, objective, transparent, non-discriminatory and proportionate procedures for the granting of rights of use for radio frequencies and cause any such procedures to be made publicly available.

Duration of rights of use for radio frequencies

A 5.46 Regulation 9(6) of the Authorisation Regulations provides that rights of use for radio frequencies must be in force for such period as ComReg considers appropriate having regard to the network or service concerned in view of the objective pursued taking due account of the need to allow for an appropriate period for investment amortisation.

Conditions attached to rights of use for radio frequencies

A 5.47 Regulation 9(5) of the Authorisation Regulations provides that, when granting rights of use for radio frequencies, ComReg must, having regard to the provisions of Regulations 17 and 19 of the Framework Regulations, specify whether such rights may be transferred by the holder of the rights and under what conditions such a transfer may take place.

A 5.48 Regulation 10(1) of the Authorisation Regulations provides that, notwithstanding Section 5 of the Wireless Telegraphy Act, 1926, but subject to any regulations under Section 6 of that Act, ComReg may only attach those conditions listed in Part B of the Schedule to the Authorisation Regulations. Part B lists the following conditions which may be attached to rights of use:

- Obligation to provide a service or to use a type of technology for which the rights of use for the frequency has been granted including, where appropriate, coverage and quality requirements.
- Effective and efficient use of frequencies in conformity with the Framework Directive and Framework Regulations.
- Technical and operational conditions necessary for the avoidance of harmful interference and for the limitation of exposure of the general public to electromagnetic fields, where such conditions are different from those included in the general authorisation.
- Maximum duration in conformity with Regulation 9, subject to any changes in the national frequency plan.

- Transfer of rights at the initiative of the rights holder and conditions of such transfer in conformity with the Framework Directive.
- Usage fees in accordance with Regulation 19.
- Any commitments which the undertaking obtaining the usage right has made in the course of a competitive or comparative selection procedure.
- Obligations under relevant international agreements relating to the use of frequencies.
- Obligations specific to an experimental use of radio frequencies.

A 5.49 Regulation 10(2) also requires that any attachment of conditions under Regulation 10(1) to rights of use for radio frequencies must be non-discriminatory, proportionate and transparent and in accordance with Regulation 17 of the Framework Regulations.

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

A 5.50 Regulation 11(1) of the Authorisation Regulations provides that, where ComReg considers that the number of rights of use to be granted for radio frequencies should be limited it must, without prejudice to Sections 13 and 37 of the 2002 Act:

- give due weight to the need to maximise benefits for users and to facilitate the development of competition, and
- give all interested parties, including users and consumers, the opportunity to express their views in accordance with Regulation 12 of the Framework Regulations.

A 5.51 Regulation 11(2) of the Authorisation Regulations requires that, when granting the limited number of rights of use for radio frequencies it has decided upon, ComReg does so “...*on the basis of selection criteria which are objective, transparent, non-discriminatory and proportionate and which give due weight to the achievement of the objectives set out in Section 12 of the 2002 Act and Regulations 16 and 17 of the Framework Regulations.*”

A 5.52 Regulation 11(4) provides that where it decides to use competitive or comparative selection procedures, ComReg must, inter alia, ensure that such procedures are fair, reasonable, open and transparent to all interested parties.

Fees for spectrum rights of use

A 5.53 Regulation 19 of the Authorisation Regulations permits ComReg to impose fees for rights of use which reflect the need to ensure the optimal use of the radio frequency spectrum.

A 5.54 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 Regulation 16 of the Framework Regulations.

Amendment of rights and obligations

A 5.55 Regulation 15 of the Authorisation Regulations permits ComReg to amend rights and conditions concerning rights of use, provided that any such amendments may only be made in objectively justified cases and in a proportionate manner, following the process set down in Regulation 15(4).

A2.3 Other Relevant Provisions

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

A 5.56 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 5.57 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 revocation) as may be prescribed in regard to it by regulations made by ComReg under Section 6.

A 5.58 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 5.59 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 5.60 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 5.61 Regulation 10(1) of the Authorisation Regulations provides that, notwithstanding section 5 of the Act of 1926 but subject to any regulations made under section 6 of that Act, where ComReg attaches conditions to rights of use for radio frequencies, it may only attach such conditions as are listed in Part B of the Schedule to the Authorisation Regulations.

Broadcasting Act 2009 (the “2009 Act”)

A 5.62 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 5.63 Article 4 of the Competition Directive 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.”*

Radio Spectrum Policy Programme

A 5.64 On 15 February 2012, the European Parliament adopted 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 5.65 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.

2. For the purposes of the first subparagraph of paragraph 1 and without prejudice to the application of competition rules and to the measures adopted by Member States in order to achieve general interest objectives in accordance with Article 9(4) of Directive 2002/21/EC, Member States may adopt, inter alia, measures:

(a) limiting the amount of spectrum for which rights of use are granted to any undertaking, or attaching conditions to such rights of use, such as the provision of wholesale access, national or regional roaming, in certain bands or in certain groups of bands with similar characteristics, for instance the bands below 1 GHz allocated to electronic communication services. Such additional conditions may be imposed only by the competent national authority;

(b) reserving, if appropriate in regard to the situation in the national market, a certain part of a frequency band or group of bands for assignment to new entrants;

(c) refusing to grant new rights of use of spectrum or to allow new spectrum uses in certain bands, or attaching conditions to the grant of new rights of use of spectrum or to the authorisation of new spectrum uses, in order to avoid the distortion of competition by any assignment, transfer or accumulation of rights of use;

(d) prohibiting or imposing conditions on transfers of rights of use of spectrum, not subject to national or Union merger control, where such transfers are likely to result in significant harm to competition;

(e) amending the existing rights in accordance with Directive 2002/20/EC where this is necessary to remedy ex post the distortion of competition by any transfer or accumulation of rights of use of radio frequencies.

3. Where Member States wish to adopt any measures referred to in paragraph 2 of this Article, they shall act in conformity with the procedures for the imposition or variation of such conditions on the rights of use of spectrum laid down in Directive 2002/20/EC.

4. Member States shall ensure that the authorisation and selection procedures for electronic communications services promote effective competition for the benefit of citizens, consumers and businesses in the Union.”