



An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

COVID-19: Temporary spectrum management measures

Second further temporary spectrum rights in the 700 MHz Duplex, 2.1 GHz and 2.6 GHz Bands

Consultation and Draft Decision including Draft Regulations

Reference: ComReg 21/16

Date: 05/03/2021

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Chapter 1

1 Introduction

- 1.1 This document sets out the Commission for Communication Regulation's ("ComReg") proposals to implement a second further temporary electronic communications service ("ECS") licensing framework beyond 1 April 2021, given the temporary and extraordinary situation presented by COVID-19 and the significant increased traffic demands placed on wireless networks (see Section 2.3 below) arising from the Government measures to address same (see Section 2.2 below), (hereinafter termed the "Temporary Situation") (the "Proposed Approach"), and invites submissions on those proposals.
- 1.2 While it always remains preferable to assign radio spectrum on a long-term basis through a competitive award process as appropriate (see Section 2.5 below), the temporary assignment of spectrum can continue to assist licensees in providing additional network capacity/performance to meet the increased traffic demands arising from the Temporary Situation.
- 1.3 The Temporary Situation has resulted in the provision of voice and data services becoming more important to the day-to-day life and working arrangements of many people, with these services being used extensively to stay in contact with relatives and friends and to remote work and learn from home.

Temporary spectrum rights issued to date

- 1.4 Given the Temporary Situation, and pursuant to requests from affected operators¹ for temporary spectrum rights, ComReg has previously consulted upon and (with the consent of the Minister) put in place two consecutive licensing frameworks of six months duration each for the temporary assignment of spectrum rights of use.
- 1.5 This has facilitated the issue of temporary spectrum rights in the 700 MHz Duplex and 2.1 GHz bands to all three MNOs² which have been used to provide additional network capacity to address the increased traffic demands arising from the Temporary Situation.

¹ The three mobile network operators ("MNOs") submitted a common letter requesting temporary spectrum rights on 24 March 2020 (See Annex 3 of Document [20/21](#)) and on 2 September 2020 (see Annex 3 of Document [20/86R](#)).

² Namely, Meteor Mobile Communications Limited ("Meteor"), Three Ireland (Hutchison) Limited ("Three") and Vodafone Ireland Limited ("Vodafone").

Consideration of any further temporary spectrum licensing framework

- 1.6 In light of the expiry of the existing temporary licensing framework (and licences) on 1 April 2021 and the likely continuance of the Temporary Situation beyond that date, in January 2021 ComReg published Document 21/05³ an Information Notice which set out guidance regarding the information requirements and next steps in considering any further temporary licensing framework beyond 1 April 2021.
- 1.7 In summary, this guidance recommended that the MNOs submit a joint or common request to ComReg by 17 February 2020 which would (i) set out the specific details of any such joint/common request and (ii) provide sufficiently detailed supporting information based on the updated and prevailing COVID-19 considerations at that time.
- 1.8 Each of the MNOs has now submitted to ComReg a common letter requesting a further Temporary ECS Licensing framework (“MNO’s Request”) and, separately, individual supporting information.
- 1.9 This consultation document sets out ComReg’s:
- preliminary assessment of the MNO’s Request and preliminary assessment of whether a further licensing framework would be appropriate in principle (Chapter 3);
 - specific proposals in respect of a possible further temporary licensing framework (Chapter 4) and draft decision in respect of same (Chapter 5); and
 - draft regulations which would be made under the Wireless Telegraphy Act 1926 to give effect to ComReg’s specific proposals, subject to the consent of the Minister being obtained (Annex 2).
- 1.10 Noting the importance of progressing matters in an expedient timeframe due to the nature of the Temporary Situation, ComReg is again employing a greatly accelerated consultation process and requests that submissions from interested parties be provided by no later than close of business on **Wednesday 10 March 2021**.

³ ComReg Document [21/05](#), “COVID-19 Potential Further Temporary ECS Licensing – January 2021 update and next steps in considering any further temporary licensing framework”, published 21 January 2021.

The need for temporary spectrum licences may dissipate over the coming year

- 1.11 It is important to note that the background to, and context of, the **Proposed Approach is exceptional**, and ComReg stresses, for the avoidance of doubt, that the existing and any further Temporary ECS Licensing frameworks are entirely without prejudice to ComReg's Multi-Band Spectrum Award (referred to herein as the "MBSA2") for the long-term assignment of spectrum rights of use in the 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz bands (see Section 2.5 below), and the liberalisation of existing licences in the 2.1 GHz Band as provided for in the MBSA2 decision⁴.
- 1.12 Paragraphs 38 and 39 of the Executive Summary and Chapter 11 of Document 20/122 set out the next steps in the MBSA2 process, where paragraphs 38 and 39 of the Executive Summary to Document 20/122 state:
- "38. Following this decision, ComReg will advance its response to consultation and **publication of the Information Memorandum during Quarter 1, 2021** which will commence the Award Process. The Information Memorandum, when published, will be an implementation of, and will reflect the Decision made in this document.*
- 39. **Subsequently, ComReg will present the draft licensing regulations for the consent of the Minister** for the Environment, Climate and Communications. Following ministerial consent, ComReg will accept applications to the Award Process."* [emphasis added]
- 1.13 On 14 January 2021, Three Ireland (Hutchison) Limited and Three Ireland Services (Hutchison) Limited (collectively "Three") lodged an appeal against the MBSA2 Decision to the High Court. On Monday, 25 January 2021, the proceedings were admitted to the Commercial List of the High Court and, noting the urgency of the matter, the proceedings were afforded priority and given a hearing date of 2 June 2021⁵.
- 1.14 As stated in Document 21/04R⁶, Three's appeal does not of itself affect the taking effect of the MBSA2 Decision or prevent action being taken to implement it and ComReg will oppose the appeal in full.

⁴ ComReg Document No. [20/122](#), ComReg Decision D11/20; *Multi Band Spectrum Award - Response to Consultation and Decision - The 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz Bands*, published 18 December 2020.

⁵ Record Number "2021 9 MCA" available on <http://www.highcourtsearch.courts.ie/>

⁶ ComReg Document [21/04R](#), "Appeal by Three in relation to Multi Band Spectrum Award – The 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz Bands" published 20 January 2021 and revised on 29 January 2021.

1.15 In addition, and in light of the recent Government statements in the recently published ‘COVID-19 Resilience and Recovery 2021: The Path Ahead’⁷ and subsequent commentary at the National Public Health Emergency Team (NPHE) briefing of 25 February as reported in the Irish Times⁸ (see Section 2.2 below), ComReg observes that **the exceptional circumstances underpinning the Proposed Approach will likely begin to dissipate** over the course of this year, noting in particular:

- The Government’s expectation that *“a significant majority of the population will be vaccinated by next Autumn/Winter”*;
- *“The Government’s approach to amending and subsequently withdrawing the exceptional emergency levels of support will be phased in-line with public health advice, virus suppression and the vaccination roll-out.”*
- *“Ireland could return to “close to” normal by the end of the year if “everything goes well” with Covid-19 vaccine supply and uptake and the control of new variants, according to deputy chief medical officer Dr Ronan Glynn.”*; and
- *“Though there was no certainty, people have “good reason to be hopeful” and we could be “in a good place” by the end of the summer,”*

1.16 Given the above, ComReg observes that, over the proposed 6-month period of this further temporary spectrum licensing framework, it would be appropriate for the MNOs to plan for, and action as appropriate, steps to smoothly transition from any further temporary spectrum rights.

1.1 Structure of document

1.17 The remainder of this document is structured as follows:

- **Chapter 2:** sets out some background information relevant to this consultation, including information on the previous and current Temporary Spectrum Licensing Frameworks, the Government measures to address COVID-19, network traffic information since the adoption of the Government measures, ComReg’s MBSA2 project, other supporting actions such as spectrum leasing;
- **Chapter 3:** sets out information on the MNO’s Request, ComReg’s observations on same and its preliminary assessment and view on

⁷ <https://www.gov.ie/en/publication/c4876-covid-19-resilience-and-recovery-2021-the-path-ahead/>

⁸ <https://www.irishtimes.com/news/health/covid-19-ireland-could-be-close-to-normal-by-end-of-year-says-dr-ronan-glynn-1.4495398>

whether it would be appropriate in principle to provide for further temporary spectrum rights in light of the Temporary Situation;

- **Chapter 4:** sets out ComReg's proposals for a further temporary spectrum licensing framework;
- **Chapter 5:** sets out ComReg's draft Decision regarding its proposals;
- **Chapter 6:** sets out information on submitting comments on this consultation and outlines the next steps.
- **Annex 1:** is a glossary of terms;
- **Annex 2:** summarises ComReg's statutory functions, objectives and duties relevant to the management of Ireland's radio frequency spectrum
- **Annex 3:** sets out the non-confidential submissions from the MNOs in support of their requests for further temporary spectrum rights of use and correspondence with other interested parties;
- **Annex 4:** sets out the Draft Regulations to facilitate the proposed assignment of further temporary spectrum rights of use by ComReg.

Chapter 2

2 Background Information

2.1 This chapter sets out some background information relevant to this consultation regarding:

- the COVID-19 Temporary Spectrum Licensing Frameworks implemented to date;
- the Government measures to address COVID-19;
- network traffic information since the adoption of the Government measures;
- consumer information;
- ComReg's MBSA2 project; and
- other supporting actions such as spectrum leasing.

2.1 COVID-19 Temporary Spectrum Licensing Frameworks implemented to date

2.2 Given the Temporary Situation, and pursuant to requests from affected operators⁹, ComReg has consulted upon and (with the consent of the Minister) put in place two consecutive licensing frameworks for the temporary assignment of spectrum rights of use. These are:

- the Temporary ECS licensing framework (from 8 April 2020 to 7 October 2020)¹⁰; and
- the Further Temporary ECS licensing framework (from 8 October 2020 to 1 April 2021)¹¹.

⁹ The three MNOs submitted a common letter requesting temporary spectrum rights on 24 March 2020 (See Annex 3 of Document [20/21](#)) and on 2 September 2020 (see Annex 3 of Document [20/86R](#)).

¹⁰ Given effect by the Wireless Telegraphy (Temporary Electronic Communications Services Licences ([S.I. No. 122 of 2020](#)),) Regulations 2020 which were made on 8 April 2020 with the consent of the Minister for Communications, Climate Action and Environment.

¹¹ Given effect by the Wireless Telegraphy (Further Temporary Electronic Communications Services Licences) Regulations 2020 ([S.I. No. 407 of 2020](#)) which were made on 2 October 2020, with the consent of the Minister for the Environment, Climate and Communications.

- 2.3 Each of these licensing frameworks has provided for the temporary assignment of spectrum rights in the 700 MHz Duplex, 2.1 GHz and 2.6 GHz bands for an overall period of up to 6 calendar months from the date of the coming into operation of the relevant regulations.
- 2.4 Such temporary licensing frameworks are intended solely to address the Temporary Situation and are entirely without prejudice to the award of spectrum rights of use in the MBSA2 (see Section 2.5 below). Applicants for a temporary licence have accepted same in the Application Declaration Form¹² when applying for a licence.
- 2.5 To date, temporary spectrum rights in the 700 MHz Duplex and 2.1 GHz bands have been issued to all three MNOs as detailed in Table 1 below.

Table 1: COVID-19 Temporary spectrum licences issued

Licensee	Spectrum Bands	Temporary ECS Licensing Framework		Further Temporary ECS Licensing Framework	
		Initial Licence	Renewal Licence	Initial Licence	Renewal Licence
Meteor	700 MHz Duplex, 2.1 GHz Band	9 April 2020 to 8 July 2020	9 July 2020 to 7 October 2020	8 October 2020 to 7 January 2021	8 January 2021 to 1 April 2021
Three	700 MHz Duplex, 2.1 GHz Band	9 April 2020 to 8 July 2020	9 July 2020 to 7 October 2020	8 October 2020 to 7 January 2021	8 January 2021 to 1 April 2021
Vodafone	700 MHz Duplex, 2.1 GHz Band	22 April 2020 to 21 July 2020	22 July 2020 to 7 October 2020	8 October 2020 to 7 January 2021	8 January 2021 to 1 April 2021

¹² See paragraph 4 of Part 6 of the Application Form in Documents [20/27a](#) and [20/88a](#)).

- 2.6 As demonstrated by the MNOs' submissions to ComReg's consultations¹³, the temporary spectrum rights have been used to provide additional network capacity which supports the provision of voice and data services to consumers, to address the increased traffic demands arising from the COVID-19 measures. The extent of this deployment varies per MNO.

2.2 COVID19: Government's measures and vaccination plan

- 2.7 Since March 2020, the Government has taken a suite of measures to tackle COVID-19.
- 2.8 In September 2020, the Government published its "*Resilience and Recovery 2020-2021: Plan for Living with COVID-19*" which set out 5 levels of restrictions for controlling the spread of COVID-19 over the following 6 to 9 months. Using this framework, the Government reviews what it deems the appropriate levels to apply nationally or locally as the Temporary Situation evolves.
- 2.9 On 23 February 2021, the Government introduced a revised plan to manage COVID-19 called 'COVID-19 Resilience and Recovery 2021: The Path Ahead'¹⁴. This plan continues to set out 5 levels of restrictions and the level that applies to each county depends on the current COVID-19 situation in same.
- 2.10 As of 23 February 2021, **Level 5 restrictions apply** to all counties in Ireland until **5 April 2021** when a further review will be conducted¹⁵. The public health measures and Government restrictions¹⁶ applicable include that:
- people stay at home, except for travel to work, education or other essential purposes, or to exercise within 5 kilometres of their home;
 - people work from home unless work is an essential health, social care or other essential service or activity that cannot be done from home;
 - there are no gatherings other than small numbers at funerals and weddings; and

¹³ For example, see section 3.2.2 of ComReg Document [20/86R](#) which summarises the MNOs' submissions in support of a further temporary spectrum licensing framework.

¹⁴ <https://www.gov.ie/en/publication/c4876-covid-19-resilience-and-recovery-2021-the-path-ahead/>

¹⁵ See www.gov.ie/en/campaigns/c36c85-covid-19-coronavirus/ and https://www.citizensinformation.ie/en/health/covid19/public_health_measures_for_covid19.html.

¹⁶ See Statutory Instruments related to controlling the COVID-19 pandemic available at: www.gov.ie/en/collection/1f150-view-statutory-instruments-related-to-the-covid-19-pandemic/

- with the exception of primary level special schools and special classes in mainstream primary and post-primary schools, schools are closed with remote learning in place. From 1 March all other schools will start to return on a phased basis.

2.11 The situation **after 5 April** will be **subject to ongoing review** taking account of the evolving epidemiological situation and available evidence in relation to vaccine deployment, uptake and effectiveness. As stated in the ‘COVID-19 Resilience and Recovery 2021: The Path Ahead’ (at page 3), after 5 April:

- *“Any easing of measures should be slow and gradual with sufficient time between phases to assess impact and to respond if the epidemiological situation was to deteriorate.”*
- *“Again, the requirement to work from home will continue throughout this period, unless work is an essential health, social care or other essential service or activity than cannot be done from home.”*
- *“Any further easing of restrictions after 5th April will need a further 3-4 week period to allow for assessment of the impact of changes.”*

2.12 In relation to the longer term the ‘COVID-19 Resilience and Recovery 2021: The Path Ahead’, makes a number of statements including that:

- *“While we have just cause to be hopeful that things will improve over the course of the year, an assessment of the future trajectory of the disease is subject to uncertainties and unknowns in relation to variants and vaccine effectiveness and uptake levels.”* (page 2); and
- *“The Government’s approach to amending and subsequently withdrawing the exceptional emergency levels of support will be phased in-line with public health advice, virus suppression and the vaccination roll-out.”* (page 44).

2.13 In relation to the NPHET briefing of 25 February, the Irish Times reported¹⁷ that:

- *“Ireland could return to “close to” normal by the end of the year if “everything goes well” with Covid-19 vaccine supply and uptake and the control of new variants, according to deputy chief medical officer Dr Ronan Glynn.”*; and

¹⁷ <https://www.irishtimes.com/news/health/covid-19-ireland-could-be-close-to-normal-by-end-of-year-says-dr-ronan-glynn-1.4495398>

- *“Though there was no certainty, people have “good reason to be hopeful” and we could be “in a good place” by the end of the summer.”*

Rollout of COVID-19 Vaccines

- 2.1 As of 23 February 2021, there are three COVID-19 vaccines approved for use in the EU (Pfizer/BioNTech, Moderna and AstraZeneca). In addition, the Johnson & Johnson/Janssen vaccine is under evaluation by the European Medicines Agency (“EMA”) and development is ongoing for the CuveVac and the Sanofi-GSK vaccines¹⁸.
- 2.2 In Ireland, the Government has indicated that the COVID-19 vaccine will be available free of charge to all residents of Ireland who wish to receive it. The rollout of COVID-19 vaccine began over two months ago on 29 December 2020 with the initial rollout focusing on healthcare workers in frontline services and the aged 65 years and older residents and staff in long term residential care facilities¹⁹.
- 2.3 Ireland has a COVID-19 Vaccine Allocation Strategy²⁰ which provisionally lists the groups of people who will be the first to access a COVID-19 vaccine and it has a national COVID-19 vaccination plan²¹ which has been developed by a high-level taskforce. This taskforce is working with the Health Service Executive and the Department of Health on the rollout of the national COVID-19 vaccination programme.
- 2.4 As noted in the ‘COVID-19 Resilience and Recovery 2021: The Path Ahead’:
 - *“The expectation is that a significant majority of the population will be vaccinated by next Autumn/Winter. Nevertheless, there are real risks that we may face the same challenges in controlling COVID-19 and protecting our health service as we did during this winter for a number of reasons ...”* (page 10);
 - *“The roll-out plan for all population groups remains subject to change to reflect any future recommendations by NIAC²². The roll-out plan continues to be highly dependent on vaccine delivery, the approval of*

¹⁸ See [Safe COVID-19 vaccines for Europeans | European Commission \(europa.eu\)](https://www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/coronavirus-disease-covid-19/treatments-vaccines/vaccines-covid-19/treatments-vaccines-covid-19-medicines-under-evaluation#covid-19-vaccines-section) & <https://www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/coronavirus-disease-covid-19/treatments-vaccines/vaccines-covid-19/treatments-vaccines-covid-19-medicines-under-evaluation#covid-19-vaccines-section>

¹⁹ See www.gov.ie/en/campaigns/199e6-covid-19-vaccine/

²⁰ <https://www.gov.ie/en/publication/39038-provisional-vaccine-allocation-groups/#your-quick-guide-to-the-provisional-vaccine-allocation-groups> .

²¹ See www.gov.ie/en/news/adcb8-irelands-covid-19-vaccine-plan/

²² National Immunisation Advisory Committee.

additional vaccine candidates by the European Medicines Agency and supply arrangements for these as they become known.” (page 12);

- *“The Government's goal is to vaccinate as many people over 18 years of age as possible as soon as possible and as vaccines become available.” (page 13); and*
- *“Government, therefore, considers it important that Ireland opts-in to additional vaccine contracts and has agreed to purchase almost 17.4 million vaccines across the full portfolio to date.” (page 13)*

2.3 Network traffic since the adoption of COVID-19 measures

- 2.5 The adoption of COVID-19 measures has resulted in increased voice and data traffic on electronic communications networks given the greater dependence on these networks for work, personal, social and educational activities.
- 2.6 To better understand the changing demands being placed on network operators in light of COVID-19, and their ability to meet these demands, weekly network performance reports are provided by network operators to ComReg's Network Operations Unit.

Mobile Networks Aggregate Traffic Volume Increase

- 2.7 Figure 1 below presents updated aggregate monthly change in voice and data traffic volume on the mobile networks from April 2020 to February 2021.
- 2.8 From this ComReg observes that the aggregate MNO voice²³ and data traffic volume increases for February 2021, of circa 8% and 64% respectively, remain, at least with regards to data volumes, notably greater than the pre-COVID-19 base levels.

²³ Aggregate MNO voice traffic volumes decreased in December 2020 in line with historical trends at Christmas.

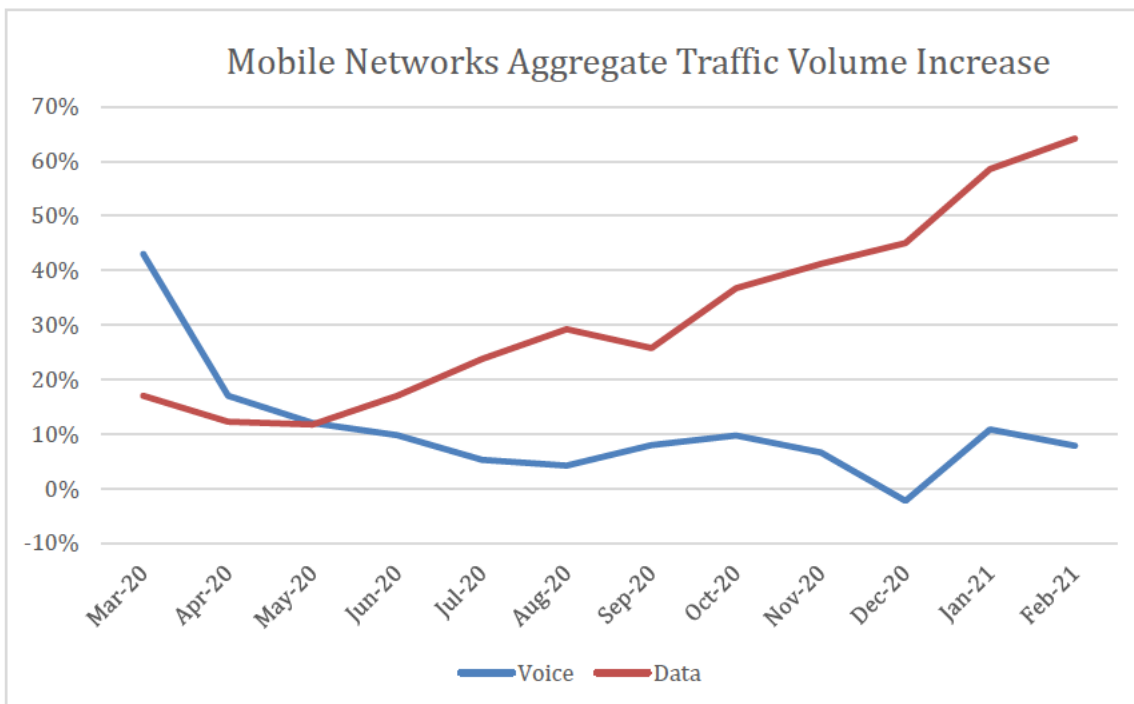


Figure 1: Mobile Networks Aggregate Traffic Volume Increase²⁴

2.9 In relation to the most recent weekly network operator performance report, compiled on 01 March 2021, ComReg observes that weekly aggregate voice and data traffic volume averaged across all mobile networks is circa 7% and 64% greater than the base pre-COVID-19 level, respectively. Further, each mobile network is experiencing an increase as detailed in Table 2 below.

Table 2: Individual Mobile Network Operator traffic volume increases (data compiled on 1 March 2021) [REDACTED]²⁵

MNO	Voice traffic increase	Data traffic increase
Meteor	[REDACTED]	[REDACTED]
Three	[REDACTED]	[REDACTED]
Vodafone	[REDACTED]	[REDACTED]

²⁴ Note that these are total traffic volume increases above a base level before the COVID-19 government restrictions were put in place and include changes due to typical seasonal or annual variations in traffic.

²⁵ Note that these are total traffic volume increases above a base level before the COVID-19 government restrictions were put in place and include changes due to typical seasonal or annual variations in traffic.

2.10 Weekly network information is also collected from Imagine in relation to its fixed wireless network. Based on the most recent weekly network operator performance report compiled on 1 March 2021, Imagine's network experienced a data traffic volume increase of [\times ██████ \times] compared to pre-COVID-19 levels (i.e. higher than that of the mobile networks).

Other ComReg data

2.11 Information from the latest ComReg Quarterly Key Data Report²⁶ (to end September/Q3 2020) also indicates significant increases in total mobile voice and mobile data usage since the introduction of COVID-19 measures.

2.12 In relation to voice minutes:

- Calls from mobiles had been relatively static for the previous 5 years, fluctuating within a range of 3 – 3.1 billion minutes, but increased to an all-time high of 3.74 billion minutes (19% increase year-on-year) in Q2 2020 before reducing slightly to 3.45 billion minutes (13% increase year-on-year) in Q3 2020; and
- Calls from fixed to mobile have been on a downward trend over the past 5 years but recorded a 30% increase in Q2 2020 (year-on-year), the largest quarterly increase recorded by ComReg, before reducing slightly to a total of 139.4 million minutes (17% increase year-on-year) in Q3 2020.

2.13 In relation to data usage:

- Mobile broadband (dongle/router) usage increased by 76% compared to the same period last year where previous annual increases were typically around 50 - 60%;
- Fixed wireless data usage increased by 113% compared to the same period last year where previous annual increases were typically around 40 - 50%; and
- Mobile data usage increased by around 50% compared to the same period last year where previous annual increases were typically around 30 - 35%.

²⁶ ComReg Document [20/119](#), "Quarterly Key Data Report – Q3 2020", published 10 December 2020.

2.4 Consumer information: mobile voice and mobile data services

Document 20/21

- 2.14 In Document 20/21, ComReg set out its view that consumers are likely to have an increased need for mobile voice (“Voice Services”) and data services (“Data Services”) during the Temporary Situation. In that regard, ComReg made several observations on Voice and Data services which may, in the main, remain relevant to this consultation.
- 2.15 In relation to Voice Services, and in summary, ComReg noted the following (all of which would appear to remain valid):
- Around half of households do not have a fixed line **voice connection** and would primarily rely on mobile networks (which has close to full population penetration) to make voice calls²⁷;
 - 10% of households do not have internet access of any kind^{28 29} and such households would be entirely reliant on accessing essential services over the phone during the Temporary Situation; and
 - Consumers may require access to a variety of essential and non-essential services during the Temporary Situation (see Paragraph 4.12 of Document 20/21).
- 2.16 In relation to Data Services, and in summary, ComReg noted the following (all of which remains valid):
- Around 20% of households primarily rely on wireless means to provide **internet access** to the household³⁰;
 - a mobile broadband internet connection is most common in less affluent households who may have a greater requirement for essential services over the period; and
 - reliable data services play an important role in the provision of mobile

²⁷ Mobile Consumer Experience Survey 2019, Document 19/101, slide 22.

²⁸ <https://www.cso.ie/en/releasesandpublications/ep/p-iss/hh/information/societystatistics-households2019/householdinternetconnectivity/>

²⁹ Ibid - 52% reported that the reason for no access was that they *Do not need internet*. Just over four in every ten (42%) reported *Lack of skills* as a reason for not having household internet access.

³⁰ ComReg notes that subsequent to the publication of Document 20/27 its “2019 Residential Market Research Survey” was published in June and showed that at least 18% of households rely on wireless as their means of accessing broadband. See slide 17.
<https://www.comreg.ie/publication/2019-residential-market-research>

voice services through the provisions of VoLTE³¹, Native Wi-Fi³² and VOIP³³ calling which reduces the load on mobile voice networks (see paragraph 4.16 of Document 20/21).

- 2.17 ComReg also identified various essential and non-essential services provided **over the phone** (see paragraph 4.12 of Document 20/21) and **online** (see paragraph 4.18 and 4.19 of Document 20/21) that would likely be required by consumers during the Temporary Situation.

COVID-19 related consumer surveys

- 2.18 Since March 2020, several surveys have been published that support the view that consumers value being able to access internet services (including mobile internet) remotely.

- 2.19 The Central Statistics Office (“CSO”) conducted a series of surveys on the impact of COVID-19 on society which highlighted an increasing reliance on the internet for the delivery of a variety of services. For example:

- 84% of internet users are now online daily and that online purchases doubled compared to pre-COVID-19 levels³⁴; and
- an increased use of high data content, e.g. playing or downloading games was reported by 30% of internet users in March 2020, an increase of seven percentage points on the corresponding survey period in January.³⁵
- Uploading self-created content (such as photos, music, videos or text to any website to be shared) increased by seven percentage points to 38% of compared to pre-COVID levels.³⁶

³¹ Voice over Long Term Evolution

³² Native Wi-Fi technology, allows calls and texts to be made on a device utilising a Wi-Fi connection rather than through the mobile network directly

³³ Voice over internet protocol

³⁴

<https://www.cso.ie/en/csolatestnews/pressreleases/2020pressreleases/presstatementictusageduringthecovid-19period/>

³⁵

<https://www.cso.ie/en/csolatestnews/pressreleases/2020pressreleases/presstatementimpactofcovid-19onvirtuallife/>

³⁶ <https://www.cso.ie/en/csolatestnews/pressreleases/2021pressreleases/presstatementcovid-19oneyearon/>

2.20 Research findings from data collected by ComReg³⁷ on broadband and mobile phone usage since COVID-19 restrictions were introduced highlight a growing reliance on telecommunications services as 77% of respondents state that their usage has increased due to COVID-19. Furthermore:

- 92% of respondents value being able to access and use broadband at home during COVID-19³⁸; and
- 89% of respondents value being able to access and use their mobile phone at home during COVID-19.³⁹

2.21 Consumers also use wireless services in carrying out work-related activities while at home. For example:

- 42% of respondents use mobile data to carry out work-related activities while at home during the ongoing COVID-19 pandemic;
- 45% of respondents use mobile voice to carry out work-related activities while at home during the on-going COVID-19 pandemic; and
- 12% of respondents (and 15% in rural areas) use mobile dongles to carry out work-related activities while at home during the ongoing Covid-19 pandemic.

2.5 MBSA2: The long-term assignment of spectrum rights in the 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz bands

2.22 In parallel with the grant of COVID-19 temporary spectrum rights, ComReg has progressed the MBSA2 project for the long-term assignment of spectrum rights of use in the 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz bands and, on 18 December 2020, published its Decision D11/20⁴⁰ (“the MBSA2 Decision”) on same. In addition, the MBSA2 Decision sets out ComReg’s decision to “liberalise” existing rights of use in the 2.1 GHz band to enable licensees to deploy additional technologies in the band.

³⁷ ComReg Document 21/06, ‘Impact of Covid-19 on Consumer Use and Perception of Telecommunication Services’, published January 2021.

³⁸ Ibid, slide 3.

³⁹ Ibid, slide 7.

⁴⁰ See:

- ComReg Document No. [20/122](#), ComReg Decision D11/20; *Multi Band Spectrum Award - Response to Consultation and Decision - The 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz Bands*, published 18 December 2020;

2.23 Paragraphs 38 and 39 of the Executive Summary and Chapter 11 of Document 20/122 set out the next steps in the MBSA2 process, where paragraphs 38 and 39 of the Executive Summary to Document 20/122 state:

*“38. Following this decision, ComReg will advance its response to consultation and **publication of the Information Memorandum during Quarter 1, 2021** which will commence the Award Process. The Information Memorandum, when published, will be an implementation of, and will reflect the Decision made in this document.*

*39. **Subsequently, ComReg will present the draft licensing regulations for the consent of the Minister** for the Environment, Climate and Communications. Following ministerial consent, ComReg will accept applications to the Award Process.”* [emphasis added]

2.24 As noted in Document 20/122, spectrum awards, and particularly those suitable for the deployment of mobile and wireless broadband services, are very important events which occur only every few years and which have economy-wide impact. ComReg’s previous spectrum awards⁴¹ have, among other things, promoted effective competition including new market entry, and facilitated the rollout of enhanced existing and new services/technologies, including 4G and 5G, to the benefit of Irish consumers.

2.25 The MBSA2 is every bit as important as ComReg’s previous spectrum awards and its progress will enable licensees to make long-term capital expenditure decisions and is an important aspect of general economic and social development in Ireland for the foreseeable future for reasons including that it:

- will lead to improved network coverage and capacity, with significant economic benefits;
- will likely result in significant cost savings for existing network operators that secure spectrum in the award; and

-
- ComReg Document No. [20/122a](#); *Multi Band Spectrum Award - DotEcon Report Assessment of responses to consultation on Draft Decision*, published 18 December 2020;
 - ComReg Document No. [20/122b](#); *Multi Band Spectrum Award - A Report by Plum Consulting London LLP*, published 18 December 2020; and
 - ComReg Document No. [20/122s](#); *Multi Band Spectrum Award - Updated Versions of Non-confidential Submissions to Document 19/124, 20/32 and 20/56*, published 18 December 2020.

⁴¹ The last major award was in 2017 for the 3.6 GHz band, a 5G candidate band, and before that in 2012 for the 800 MHz, 900 MHz and 1800 MHz bands. See:

- 3.6 GHz band award webpage - <https://www.comreg.ie/industry/radio-spectrum/spectrum-awards/3-6ghz-band-spectrum-award/>; and
- 2012 MBSA webpage - <https://www.comreg.ie/industry/radio-spectrum/spectrum-awards/multi-band-spectrum-award-2012/>.

- is central to meeting the European Commission’s (“EC”) 5G for Europe Action Plan, a strategic initiative which concerns all stakeholders, private and public, small and large, in all Member States, to meet the challenge of making 5G a reality⁴².
- 2.26 In addition, pursuant to Article 1 of Decision (EU) 2017/899⁴³, Ireland is obliged to “allow the use” of the 700 MHz Band by 30 June 2020, and Ireland’s national roadmap for the 700 MHz Band⁴⁴ envisages an award process starting in Q1 2021.

Appeal of the MBSA2 Decision

- 2.27 On 14 January 2021, Three Ireland (Hutchison) Limited and Three Ireland Services (Hutchison) Limited (collectively “Three”) lodged an appeal against the MBSA2 Decision to the High Court.
- 2.28 As stated by ComReg in Information Notice Document 21/04R⁴⁵, Three’s appeal does not of itself affect the taking effect of the MBSA2 Decision or prevent action being taken to implement it and ComReg will oppose the appeal in full.
- 2.29 On Monday, 25 January 2021, the proceedings were admitted to the Commercial List of the High Court and Vodafone Ireland was joined as a notice party, at its request. Subsequently, Eir and Tesco Mobile have sought to be joined as notice parties.
- 2.30 Noting the urgency of the matter, and given among other things the need for the timely availability of radio spectrum to further enable 5G deployment and meet national and EU requirements which are of societal and economic importance and are in the public interest, the proceedings were afforded priority and given a hearing date of 2 June 2021⁴⁶.
- 2.31 In line with the urgency attached to the proceedings, ComReg is currently progressing its preparations for the MBSA2 award expeditiously and in line with the next steps as set out in Document 20/122 (as set out in paragraphs 38 and 39 of the Executive Summary and in Chapter 11 of same).

⁴² See <https://ec.europa.eu/digital-single-market/en/5g-europe-action-plan>

⁴³ [Decision \(EU\) 2017/899](#) of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union.

⁴⁴ “Ireland’s National Roadmap on the Use of the 700 MHz Frequency Band, Update to Roadmap published in March 2019”, update [published](#) May 2020.

⁴⁵ ComReg Document [21/04R](#), “Appeal by Three in relation to Multi Band Spectrum Award – The 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz Bands” published 20 January 2021 and revised on 29 January 2021.

⁴⁶ Record Number “2021 9 MCA” available on <http://www.highcourtsearch.courts.ie/>

2.6 Other supporting actions: spectrum leasing

- 2.32 In support of the provision of services to end users during the Temporary Situation, and noting the implementation of COVID-19 temporary spectrum licensing frameworks as discussed in Section 2.1 above, ComReg has encouraged the MNOs to consider taking other supporting actions including the leasing of spectrum to other operators.
- 2.33 Following three Spectrum Lease Determinations⁴⁷, ComReg issued five 3.6 GHz band spectrum lease licences to Imagine Communications Ireland Limited (“Imagine”) in 2020 and 2021 enabling the lease of 3.6 GHz band spectrum rights from each of the three MNOs and Dense Air Limited (“Dense Air”) at various locations and each for a three month period as detailed in Table 3 below.

Table 3: Time periods of Imagine’s 3.6 GHz band Lease Licences with the three MNOs and Dense Air

Dense Air	Eir	Three	Vodafone
22 Sept 2020 – 21 Dec 2020	22 June - 21 September 2020	22 June - 21 September 2020	22 June - 21 September 2020
22 Dec 2020 – 21 March 2021	13 Oct 2020 – 12 Jan 2021	13 Oct 2020 – 12 Jan 2021	13 Oct 2020 – 12 Jan 2021
	13 Jan 2021 – 12 April 2021	Not extended ⁴⁸	13 Jan 2021 – 12 April 2021

⁴⁷ See:

- ComReg Document [20/51](#) – Spectrum Lease Determination: Lease of spectrum rights in the 3.6 GHz band from each of Meteor Mobile Communications Limited, Three Ireland (Hutchison) Limited, and Vodafone Ireland Limited to Imagine Communications Ireland Limited. – published 19 June 2020;
- ComReg Document [20/77](#) – Spectrum Lease Determination: Lease of spectrum rights in the 3.6 GHz band from each of Meteor Mobile Communications Limited, Three Ireland (Hutchinson) Limited, and Vodafone Ireland Limited to Imagine Communications Ireland Limited – published 25 August 2020;
- ComReg Document [20/87](#) – Spectrum Lease Determination: Proposed lease of spectrum rights in the 3.6 GHz band from Dense Air Limited to Imagine Communications Ireland Limited – published 22 September 2020; and
- ComReg Document [20/97](#) – Spectrum Lease Determination: Proposed leases of spectrum rights in the 3.6 GHz band from each of Meteor Mobile Communications Limited, Three Ireland (Hutchinson) Limited, and Vodafone Ireland Limited to Imagine Communications Ireland Limited – published 13 October 2020.

⁴⁸ As noted on the [3.6 GHz Band Transition webpage](#) of ComReg, on 11 January 2021, Imagine and Three decided not to extend their Spectrum Lease Licence agreement.

- 2.34 Imagine currently holds two 3.6 GHz band spectrum lease licences, one of which expires on **21 March 2021** (in relation to spectrum leased from Dense Air) and the other on **12 April 2021** (in relation to spectrum leased from each of Eir and Vodafone).
- 2.35 Noting the context of this consultation and ComReg's proposals for a further temporary spectrum licensing framework for a period of up to 6 months from 2 April 2021 to 1 October 2021, ComReg would encourage the MNOs, Dense Air and Imagine to consider whether it would now be appropriate to agree a further six-month period of the respective leases and, if so, to promptly notify same for ComReg's consideration.

Chapter 3

3 MNOs Request and ComReg's preliminary assessment of same

3.1 In this chapter, ComReg:

- provides some background to the MNO's Request, in particular, by reference to ComReg Document 21/05;
- outlines the MNO's Request (both the common letter and individual supporting information) including by reference to the types of information identified in Document 21/05;
- outlines its preliminary assessment of the material received from the MNOs; and
- outlines its preliminary assessment of whether a further licensing framework would, in principle, be appropriate, having regard to the potential impact on competition, consumers, and other relevant statutory objectives.

3.1 Document 21/05 – ComReg's information requirements

3.2 In light of the expiry of Further Temporary ECS Licences on 1 April 2021, and the likely continuance of the Temporary Situation beyond that date, ComReg published Document 21/05 an Information Notice setting out guidance regarding the information requirements and next steps in considering any further temporary licensing framework beyond 1 April 2021.

3.3 ComReg identified that, in considering any further Temporary ECS Licensing framework, the next formal step would be for the MNOs to submit a joint or common request to ComReg by 17 February 2021:

- (i) setting out the specific details of the joint/common request indicating any elements of the existing Temporary ECS Licensing framework that ought to be changed (if any) and the reasons for same; and
- (ii) providing sufficiently detailed information based on the updated and prevailing COVID-19 considerations at that time to support a request for any further Temporary ECS Licensing framework.

3.4 To assist the MNOs in making such a submission, paragraph 32 of Document 21/05 set out the following non-exhaustive list of information that ComReg would expect each MNO to submit separately to ComReg in support of any joint or common request.

A. Network traffic / capacity / performance information

- (i) available information regarding the traffic (voice and data), capacity and performance of the network considering the temporary and extraordinary situation arising from COVID-19. In particular, the changes in network traffic (voice and data), capacity and performance from pre-COVID-19 until now.
- (ii) information on the expected traffic demand and network capacity beyond 1 April 2021.
- (iii) observations on how much of the changes in traffic and capacity is due to forecasted annual changes that would be expected on a network in the normal course (accounting for seasonal changes and projected market developments in the absence of COVID-19) and those that can reasonably be considered to be directly related to Government COVID-19 measures.

B. Ability to make use of existing temporary spectrum assignments in any further Temporary ECS Licensing framework

- (i) information regarding the number, locations and deployment dates of sites/transmitters and technology (e.g. UMTS, LTE etc...) for each spectrum band that have been used to date using an existing Further Temporary ECS Licence.
- (ii) the number of sites/transmitters for each spectrum band that an MNO would expect to use over the duration of any further Temporary ECS Licensing framework.

C. How temporary rights have assisted with the provision of ECS in the State

- (i) how existing temporary rights have assisted in alleviating the network capacity/performance constraints to-date. Please provide available information highlighting trends where the network capacity/network performance improvements are correlated to use of temporary ECS rights of use. For example, when temporary ECS rights of use were brought into use the network / capacity improvements observed at these times.

- (ii) how temporary rights may materially assist over the duration of any further Temporary ECS Licensing framework.
- D. Managing the risks to the provision and quality of existing ECS given the use of the temporary spectrum rights
- (i) information regarding the management of risks to the provision and quality of existing ECS and the measures taken to date by the MNO. For example, the key measures taken on foot of Annex 4 of Document 20/27 - 700 MHz Coordination procedures.
- E. The risk of congestion and other disruption to consumer services and the locations where it would most likely arise in the event of no further Temporary ECS Licensing framework, identifying if such congestion or disruption would reasonably be considered to be due to COVID-19 matters or mobile market developments / commercial strategy matters.
- F. Details of the preparations and actions that the MNOs has taken and would need to take in the event of no further Temporary ECS Licensing framework
- G. Any other factors that the MNOs deem relevant to the consideration of any further Temporary ECS Licensing framework

3.2 MNOs Request

3.2.1 MNO Common Letter

3.5 On 9 February 2021 (Eir) and 11 February (Vodafone and Three), the three MNOs each submitted a common letter to ComReg (see Annex 3).

3.6 In this common letter, the MNOs *“jointly request that the terms of the current Temporary Spectrum Management Measures detailed in ComReg 20/88 (D08/20) are extended unchanged”*.⁴⁹

3.7 In support of their common request, the MNOs submit that:

- *“It seems we will need to live with Covid-19 for some time yet while the national vaccination programme is implemented and its efficacy is demonstrated.”*

⁴⁹ Contrary to the common letter, Eir submits in its MNO-specific supporting information (as published in Annex 3), that *“The temporary licence regime should be seeking to minimise potential impacts on competition and we believe that Three’s temporary licence should limit liberalisation of its 3G licence to no more than 2x15MHz.”* This issue is addressed in Section 4.4 below.

- *“The change to working practice, the move to online education and the change to social interaction that was forced upon us over the last year is likely to have a lasting effect. ... Mobile networks have contributed strongly towards supporting this change in the quantity and location of offered traffic by rapidly changing our network build plans supporting the changing traffic patterns, often to support traffic in commuter towns and in rural areas. In the coming months we continue to face further uncertain changes in traffic patterns. ... It is impossible to predict where local surges will occur, so service providers must prepare on the basis that they could be anywhere. .. The physical location of the demand also changed – out of city centres to residential areas.”*
- *“The Temporary Spectrum Licences first issued by ComReg in April have helped in an important way to meet the new demands placed on mobile networks. ... The rapid enactment of the Temporary Spectrum Measures by ComReg has allowed operators to support this traffic at performance measures similar to those achieved pre-Covid. As new infrastructure cannot be built at short notice, and as operators had already adjusted network configuration to the maximum extent, the Temporary Spectrum Measures have been crucial to giving mobile operators flexibility to mitigate significant congestion in voice and data networks.”*
- *“As we move forward in the coming months and the next phases of action dealing with Covid, it is important that ComReg should ensure that the current Temporary Spectrum Licences continue past the 7th [sic: 1st] April date of the current regulation. We ask that these measures are extended at least on the same basis as previously in three monthly periods. ... This will enable operators to build capacity in the different locations required and, importantly, to invest efficiently. Building new sites to cope with any short term demand in advance of the 2021 Spectrum auction would be extremely inefficient.*

3.8 Regarding their interactions with interested parties in relation to the temporary spectrum rights, the MNOs submit that:

“The mobile operators have worked closely with ComReg and Government in supplying ongoing information on network stability and traffic. In using the temporary rights we have also carefully managed the risks to the provision and quality of existing ECS through careful co-ordination with other radio spectrum users and cable companies. We are confident that we can maintain this high level of cooperation through an extended Temporary Licence period.”

3.9 Regarding the MBSA2 (see section 2.5 above), the MNOs:

“acknowledge that ComReg has stressed that any temporary licensing framework is intended solely to address the exceptional and extraordinary situation presented by COVID-19 and that it is entirely without prejudice to the award of long-term rights of use in these spectrum bands in its proposed multi-band spectrum award.”

3.2.2 Individual MNO supporting information

3.10 In support of their common request, each MNO subsequently submitted supporting information identified in paragraph 32 of Document 21/05. Non-confidential versions of these submissions are included in Annex 3.

3.11 ComReg outlines below the key points submitted using the structure from paragraph 32 of Document 21/05.

Paragraph 32 (A): Network traffic information

3.12 **In relation to 32 A (i)** *“changes in network traffic (voice and data), capacity and performance from pre-COVID-19 until now”*:

- Eir submits that it has seen *“very significant”* voice and data traffic growth since the emergence of the Temporary Situation in March 2020:
 - For **mobile data traffic**, Eir submits that its 2020 growth, averaging [X ■ X] per month, is greater than the previous two years, and that in the period March 2020 to January 2021 data traffic grew by over [X ■ X] with January 2021 seeing an [X ■ X] growth on the December 2020 data volume;
 - For **mobile voice traffic**, Eir submits that this has been flat for recent years but in March 2020 a step change occurred. While this surge fell back somewhat, Eir submits that mobile voice traffic is still above pre-Covid levels. Eir’s analysis of the average voice traffic from March 2020 to January 2021 shows that this has grown by over [X ■ X] as compared with the period from March 2019 to February 2020.
- Three submits that:
 - its **voice traffic** volumes remain elevated above its baseline [X ■ X] and notes that voice tends to peak at times coinciding with changes in the level of COVID-19 restrictions;

- in relation to its **data network**, the impact of COVID-19 restrictions is much more significant with sustained increases in both busy hour and total daily traffic throughout the different levels of restrictions. Three’s most recent daily busy hour data network throughput is [✂ █████ ✂] above its baseline forecast⁵⁰ while its daily network volume is [✂ █████ ✂] above its baseline forecast. Three submits that its data traffic has continued to out-grow forecasts and the geographical location of the traffic remains altered from what it would expect if restrictions were removed;
- Vodafone submits that it has experienced “*very significant*” increases in both voice and data traffic since March 2020, as detailed in Table 4 below. For example, it notes that its 4G downlink (“DL”) traffic volume increase is more than [✂ █████ ✂] the increase planned pre Covid-19. Vodafone also submits that there has been a marked movement in traffic from city centre areas to suburban and rural areas and to time-of-day traffic patterns in these areas.

Table 4: Vodafone’s voice and data traffic increases since March 2020
[✂ REDACTED ✂]

	Change Mar 2020 to Feb 2021	Change Nov 2020 to Feb 2021
3G Voice Traffic	[✂ █████ ✂]	[✂ █████ ✂]
4G DL Traffic Volume	[✂ █████ ✂]	[✂ █████ ✂]
4G UL Traffic Volume	[✂ █████ ✂]	[✂ █████ ✂]

3.13 **In relation to 32 A (ii) information on the expected traffic demand and network capacity beyond 1 April 2021; and 32 A (iii) observations on how much of the changes in traffic and capacity is due to forecasted annual changes that would be expected on a network and those that would be related to COVID-19:**

⁵⁰ Baseline forecast here refers to the forecasted data increase on its network across the year before the Temporary Situation

- Eir expects data traffic to continue on the same growth trajectory over the coming months particularly as the country remains at Level 5 restrictions. For voice traffic it expects this to be sustained at its new elevated level with potential further growth for the coming months. In relation to how much traffic growth would be attributable to COVID-19, Eir submits that all [X [REDACTED] X] of the voice traffic increase is attributable, while for data traffic it submits that [X [REDACTED] X] growth is attributable to Covid-19;
- Three provides a comparison of two forecasts to September 2021, being: (1) its baseline forecast excluding COVID-19 effects and (2) the adjusted forecast which assumes ongoing measures that restrict normal behaviour as follows:
 - Comparing the two forecasts the daily busy hour network data traffic for forecast (2) is
 - [X [REDACTED] X] greater than forecast (1) at 1 June 2021; and
 - [X [REDACTED] X] greater than forecast (1) at 1 September 2021;
- Three also submits that there is a layer to traffic demand which is unpredictable at this time, including the location of that demand, and it states that *“it would not be practical or efficient at this time to try to reconfigure our network to meet that demand – certainly for a short term demand.”* It also anticipates that normal peaks in demand (mid-term, Easter, etc. will be modified because of COVID-19); and
- Vodafone estimates that over the past year the change in network traffic is approximately [X [REDACTED] X] ‘normal’ growth. In relation to future growth, Vodafone fully expect traffic growth to considerably exceed the [X [REDACTED] X] growth in its pre-COVID-19 plan.

Para 32 (B): Ability to make use of existing temporary spectrum assignments in any further Temporary ECS Licensing framework

- 3.14 **In relation to 32 B (i)** *“information regarding the number, locations and deployment dates of sites/transmitters and technology for each spectrum band that have been used to date”*; **and 32 B (ii)** *“the number of sites/transmitters for each spectrum band that an MNO would expect to use over the duration of any further Temporary ECS Licensing framework”*. Table 5 below shows the number of sites currently deployed by each operator using temporary spectrum rights and the intentions of each operator should a further temporary ECS licensing framework be put in place.

Table 5: Total sites deployed and planned using temporary spectrum
 [REDACTED]

	700 MHz Sites		2.1 GHz Sites	
	In use	Total planned	In use	Total planned
Eir	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Three	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Vodafone	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

3.15 As noted in table above, each of the MNOs has deployed sites in each of the 700 MHz and 2.1 GHz bands, and each of the MNOs has plans to deploy further sites in each of the bands should a further temporary ECS licensing framework be put in place.

Para 32 (C): How temporary rights have assisted with the provision of ECS in the State

32 C (i) How existing temporary rights have assisted in alleviating the network capacity/performance constraints to-date

32 C (ii) How temporary rights may materially assist over the duration of any further Temporary ECS Licensing framework

3.16 All three MNOs submit that, to date, the temporary spectrum rights have been used to provide additional network capacity which supports, and improves in some cases, the provision of voice and data services in light of the increased traffic demands arising from the COVID-19 measures.

3.17 In relation to how any further temporary spectrum rights would assist the provision of ECS in the future, the MNOs note that this would continue to be used to provide additional capacity to meet the increased traffic demands on their network. In particular:

3.18 Eir:

- estimates that in January 2021 [REDACTED] of data traffic has been supported by the 700 MHz Duplex and 2.1 GHz bands, respectively;

- states that it has activated VoLTE to complement its existing voice over Wi-Fi service, thus enabling the refarming of some of its 2.1 GHz rights for LTE (LTE2100). In addition, Eir states that [✂]
[redacted]
[redacted] ✂]; and
- notes that it is difficult to predict where and when demand will shift, and considers that having temporary rights available nationally allows contingent capacity to be made available which can help absorb the impacts on demand arising from lockdown measures (localised or otherwise).

3.19 Three:

- notes that, on the sites where it has deployed 4G on the temporary licensed spectrum, it carries on average [✂] of the traffic which has had the immediate effect of relieving congestion and delivering higher quality of service to end-users;
- conservatively estimates that the use of the temporary spectrum on Three’s network has significantly increased quality of service to over [✂] users in sub-urban or rural areas. Three notes that a withdrawal of the temporary spectrum would mean a return to reduced quality for customers from Three, and also Virgin Media, Tesco Mobile, and LycaMobile;
- notes that [✂]
[redacted]
[redacted] ✂]; and
- submits that [✂]
[redacted]
[redacted] ✂].

3.20 Vodafone submits:

- without the capacity provided by the temporary spectrum, all of the [✂] sites using 700 MHz Duplex and [✂] sites using 2100 MHz would now be experiencing significant congestion; and

- COVID-19 has driven changes to its technology plan. [✂]

✂]

Para 32 (D): *Managing the risks to the provision and quality of existing ECS given the use of the temporary spectrum rights, e.g. key measures taken on foot of the 700 MHz Coordination Procedures (Annex 4 of Document 20/27)*

3.21 All three MNOs submit that the co-ordination procedures of the existing Temporary ECS Licensing Framework have worked well and that no adverse effects on other services have been reported. In addition:

- Eir submits that it has had extensive engagement with Virgin Media regarding 700 MHz site activation to enable testing pre/post activation and to mitigate the risk of interference to Virgin Media's CATV services during the first phase of LTE 700 MHz activation, and it has continued to maintain very close co-ordination week-to-week with Virgin Media and the other MNOs; and
- Vodafone notes that the increase in capacity resulting from the temporary spectrum rights has facilitated the lease of spectrum in the 3.6 GHz band to FWA operators.

Para 32 (E): *The risk of congestion and other disruption to consumer services and the locations where it would most likely arise in the event of no further Temporary ECS Licensing framework, identifying if such congestion or disruption would reasonably be considered to be due to COVID-19 matters or mobile market developments / commercial strategy matters*

3.22 All three MNOs note that, in the event of no further temporary spectrum rights, there is a risk of congestion or degraded service. For example:

- Eir submits that the risk of congestion is very real throughout Ireland as the increases in voice and traffic growth is network wide and it notes that the capacity of the LTE700 band along with the improved customer experience on the 2100 MHz band would be removed resulting in lower customer experience and increased congestion impacting the ability of citizens to work, learn, and engage in society. In addition, it notes that *"[b]uilding new sites to cope with any short-term demand in advance of the 2021 Spectrum auction would be extremely inefficient"*;

- Three estimates that this would materially affect connectivity for approximately [✂] users and would bring the risk that many of those customers would no longer be able to work from home or connect to school in compliance with public health guidance; and
- Vodafone notes that the capacity of many of its most busy network sites would be reduced significantly and its customers would unfortunately experience extensive congestion. Vodafone notes that the locations where this would occur are spread nationwide in suburban area, towns, and in rural areas.

Para 32 (F): Details of the preparations and actions that the MNOs have taken and would need to take in the event of no further Temporary ECS Licensing framework

3.23 Eir states that it “continues to transform its network, building new infill and capacity sites, increase 5G network sites and deploy VoLTE”. These programmes have continued throughout the emergency and will continue through 2021 but are complemented by the Temporary ECS Licensing framework. If there is a discontinuation of the Temporary Licensing framework Eir submits that:

- this will result is service degradation where traffic growth continues at elevated levels due to the impact of COVID-19 restrictions.

3.24 If a further temporary spectrum framework is not implemented, Three submits that there would be an immediate reduction in capacity, causing some currently well performing cells to become congested and others to suffer reduced quality. In particular, Three submits that:

- there are no quick remedies to this congestion as existing sites are already optimised for normal traffic patterns; and
- in some cases it might be feasible to build new sites but this is generally a slow and expensive process and is not feasible in the short term or for short-lived traffic demand.

3.25 Vodafone [✂] and expects to be able to add significant capacity to existing sites using new spectrum. If the temporary spectrum is not extended, Vodafone submits that:

- the only alternative way to increase capacity would be to add new radio sites. Given the short time between now and the planned

auction, Vodafone submits that *“it would not be economic or practical to add sufficient sites if these temporary measures are not renewed.”*

Para 32 (G): Any other factors that the MNOs deem relevant to the consideration of any further Temporary ECS Licensing framework

3.26 Eir submits that it *“would like to stress that extending the temporary licensing regime will not negatively impact ComReg’s longer term plans for the next spectrum award”* and it *“notes the positive short term benefits that accrue to citizens and society from extending the temporary licensing framework.”*

3.3 Views of other stakeholders

3.27 On 17 February 2021, Imagine made a submission stating that:

- it *“fully supports the ongoing work being carried out by ComReg in response to the COVID-19 pandemic”*;
- it *“fully supports the further extension of the temporary ECS licensing beyond April 2021 for up to 3 months with the possibility of a renewal of up to a further 3 calendar months.”*;
- its network *“has experienced significant data traffic volume increases compared to pre COVID-19 levels”* and *“[i]n March 2020 alone we saw a single step change in the order of 30% growth in traffic per subscriber”*; and
- *“whilst the growth rate at times slowed, very briefly declined and increased again due to factors such as holidays, seasonal events and multiple changes in the scale and scope of restrictions it is likely that any reduction in traffic levels will occur very gradually and could permanently remain between 20-30% above pre COVID-19 predictions due to changes to business and social behaviours.”*

3.4 ComReg’s observations of the common request

3.28 This section sets out ComReg’s observations on the factors supporting the consideration of another temporary spectrum release.

3.4.1 Factors supporting a further temporary spectrum release

3.29 In considering the background information presented in Chapter 2, and the MNO information as outlined in Section 3.2 above, ComReg observes that the following factors support the implementation of a further temporary spectrum licensing framework:

a) The Government continues to review and update the measures to tackle COVID-19, and such measures and restrictions, including encouraging work from home where possible, will remain in place beyond 1 April 2021. In this regard, ComReg observes that:

- i. there are no firm predictions about how the COVID-19 pandemic will evolve over the coming period; and
- ii. the Government's recent publication '*COVID-19 Resilience and Recovery 2021: The Path Ahead*' notes that:

"While we have just cause to be hopeful that things will improve over the course of the year, an assessment of the future trajectory of the disease is subject to uncertainties and unknowns in relation to variants and vaccine effectiveness and uptake levels." (Page 2);

"The Government's approach to amending and subsequently withdrawing the exceptional emergency levels of support will be phased in-line with public health advice, virus suppression and the vaccination roll-out." (page 44).; and

"The expectation is that a significant majority of the population will be vaccinated by next Autumn/Winter. Nevertheless, there are real risks that we may face the same challenges in controlling COVID-19 and protecting our health service as we did during this winter for a number of reasons ..." (page 10)."

- iii. In relation to the NPHET briefing of 25 February, the Irish Times reported⁵¹ that:

"Ireland could return to "close to" normal by the end of the year if "everything goes well" with Covid-19 vaccine supply and uptake and the control of new variants, according to deputy chief medical officer Dr Ronan Glynn."; and

"Though there was no certainty, people have "good reason to be hopeful" and we could be "in a good place" by the end of the summer."

b) Mobile voice and data services remain important services for consumers, particularly during the Temporary Situation, including that:

⁵¹ <https://www.irishtimes.com/news/health/covid-19-ireland-could-be-close-to-normal-by-end-of-year-says-dr-ronan-glynn-1.4495398>

- i. around half of households do not have a fixed line voice connection and would primarily rely on mobile networks (which has close to full population penetration) to make voice calls; and
 - ii. around 20% of households primarily rely on wireless means to provide internet access to the household.
- c) The introduction of Government measures in March 2020, and the continuation of these measures as revised since then, has resulted in significant voice and data traffic increases for the mobile networks (see Sections 2.2 and 3.2 above)⁵² which would have caused congestion and service degradation in the absence of temporary spectrum rights. Figure 1 above shows the aggregate MNO voice and data traffic volume increases from March 2020 to February 2021 and indicates that, since March 2020, the MNOs have experienced significant traffic increase on their networks (with the most recent figures for February 2021 showing a mobile voice and data traffic volume increase of circa **8%** and **64%** respectively, which is significantly greater than the pre-COVID-19 base levels). In that regard:
 - i. For **mobile voice services**, ComReg observes that the above increase is likely to be substantially due to the Temporary Situation⁵³ given the stable to declining trend for mobile voice minutes over the previous years as indicated in ComReg's Quarterly Key Data Reports ("QKDR");
 - ii. For **mobile data services**, ComReg observes that the supporting information provided by the MNOs indicate that data traffic has steadily grown since March 2020 and at a rate notably greater than previous years. This trend is also illustrated in the QKDR for Q3 2020 where mobile data usage increased by around 50% compared to the same period last year, recalling that annual increases have typically been between 30-35%. While not all the growth in mobile data traffic is COVID-19 related⁵⁴, and networks would typically need to plan for expected forecast growth, it is apparent that a notable portion of the aggregate mobile data traffic increase is due to the Temporary Situation; and

⁵² In relation to the network traffic and general performance of the networks, ComReg notes that the MNOs have presented the data in different ways using different metrics, for example total network volumes per day, weekday or month are used in some cases and in others network busy hour or peak traffic is presented. While the metrics used vary it is clear that both voice and data levels have notably increased since the introduction of government measures due to COVID-19 in March 2020.

⁵³ Due to much of the population now working remotely or from home and reducing their social visits. Both of these types of face to face interactions have been somewhat replaced by telephone conversations.

⁵⁴ Other possible factors include normal forecasted annual growth, the recent removal of data caps on some plans and speed increases for certain consumers due to the extra spectrum being made available

- iii. Regarding future voice and data traffic levels, ComReg observes that all three MNOs anticipate further data traffic growth over the coming months at levels in excess of their baseline / pre-COVID-19 forecasts (see paragraph 3.13 above).
- d) With the deployment of temporary spectrum rights, the MNOs have been able to rapidly add capacity to support the provision of mobile voice and data services given the increased traffic demands of the Temporary Situation.
- e) While the MNOs have also taken other actions to alleviate increased congestion on their networks due to the Temporary Situation, the MNOs believe that the deployment of temporary spectrum rights has been significant in ameliorating this congestion. In this regard, ComReg notes (i) the MNOs' estimates on the current levels of traffic carried by the temporary spectrum rights and (ii) the MNOs' observations regarding the potential impact of no further temporary spectrum rights, including:
 - i. Eir's estimate that, in January 2021, [X █████ X] of data traffic has been supported by the 700 MHz Duplex and 2.1 GHz bands respectively;
 - ii. Three's estimate that, for the sites where it has deployed 4G using its temporary spectrum rights, this carries on average [X █████ X] of its traffic. In addition, Three believes that, absent further temporary spectrum rights, approximately [X █████ X] users in sub-urban or rural areas would experience a reduced quality of service; and
 - iii. Vodafone's submission that, absent temporary spectrum rights, all of the [X █████ X] sites using 700 MHz Duplex spectrum and [X █████ X] sites using 2.1 GHz spectrum would now be experiencing significant congestion.

3.5 ComReg's preliminary assessment of whether a further licensing framework would be appropriate in principle

3.5.1 Background and analytical framework

- 3.30 In Chapter 4 of Document 20/21, ComReg set out its framework for assessing whether the first proposed temporary licensing framework would be in the best interests of competition and consumers and otherwise appropriate having regard to ComReg's functions, objectives and duties, including being objectively justified and proportionate.

- 3.31 In Chapter 4 of Document 20/27, ComReg finalised its assessment having regard to the views of interested parties received in response to Document 20/21.
- 3.32 Rather than reiterate the entirety of the above analysis when considering whether the further temporary framework would be required, in Documents 20/86R and 20/88, ComReg updated its assessment having regard to subsequent developments and available information.
- 3.33 ComReg adopts the same approach in the present case and, in this section, updates the above assessments in the context of:
- Impact on consumers;
 - Impact on competition; and
 - Other relevant functions, objectives and duties.

3.5.2 Impact on consumers

- 3.34 In Chapter 2, ComReg noted that consumers continue to require access to a variety of essential and non-essential services during the Temporary Situation. The various data and voice usage statistics presented therein, and the information submitted by the MNOs in Section 3.2 above, also support the view that the temporary spectrum rights of use have alleviated potential capacity constraints and assisted in the provision of those services⁵⁵ (see Section 4.3 of Document 20/21).
- 3.35 Consumers are therefore likely to support the Proposed Approach (for the same reasons set out in Section 4.2 of Document 20/21) provided it continues to alleviate potential capacity constraints and assists in the provision of essential and non-essential services. In that regard, ComReg notes that:
- the ability to connect to the internet and/or to make or receive voice calls over mobile networks is likely to remain an important concern for consumers as the Temporary Situation continues. This is mainly because many consumers are unlikely to have alternative means of making calls or connecting to the internet in the event of mobile network outages or quality of service degradation caused by capacity constraints; and
 - the Proposed Approach would:

⁵⁵ ComReg also observes that making the temporary spectrum available has resulted in some consumers experiencing faster available download and upload speeds.

- reduce the likelihood of capacity constraints and any associated disruption to services arising during the Temporary Situation;
- be preferable to other alternatives to mitigate network disruption e.g. additional sites, throttling, reduced data allowances; and
- facilitate users to effectively work from home in the event of any additional Government measures in the future. For example, the restriction of people's movement to the home or geographic restrictions which would further increase the load on mobile networks.

3.36 ComReg also notes that, while consumers would likely welcome the Proposed Approach, this would be predicated on rights of use expiring in a short period with long term rights of use to be assigned in an open competitive award in the MBSA2, including because the latter would provide long-term regulatory certainty for all operators and the consumer benefits arising from same.

3.5.3 Impact on Competition

3.37 In Section 4.3.1 of Document 20/21, ComReg stated that the temporary assignment of spectrum rights was unlikely to confer a material advantage on any operator or distort downstream competition over the period of the Temporary Situation because, in summary:

- Any temporary assignment of rights of use would be based on a justified need to alleviate capacity concerns⁵⁶ on existing infrastructure over a short period (paragraph 4.39 of Document 20/21); and
- an MNO would be unlikely to be able to obtain a material advantage over rivals through the temporary assignment of liberalised rights (paragraph 4.40 of Document 20/21).

3.38 In light of the latest common request received from each of the MNOs to, effectively, extend the terms of the existing temporary licensing framework unchanged, ComReg assumes that the MNOs are satisfied that any further licensing framework implemented on such basis would be unlikely to materially

⁵⁶ Such needs being identified by applicants in the application form to be used.

distort competition between them.⁵⁷

3.39 In relation to the MBSA2, ComReg notes that the MNOs “*acknowledge that ComReg has stressed that any temporary licensing framework is intended solely to address the exceptional and extraordinary situation presented by COVID-19 and that it is entirely without prejudice to the award of long-term rights of use in these spectrum bands in its proposed multi-band spectrum award.*” ComReg would also envisage the same/similar text to that currently appearing at paragraph 4 of Part 6 of previous Application Forms in any future application form in relation to the Proposed Approach.⁵⁸

3.40 In relation to the potential impact on competition outside of the MNOs (such as other 3.6 GHz Band licensees), ComReg:

- recalls that Dense Air did not provide a response to Document 20/21 or Document 20/86R, and Imagine expressed support for the current licensing framework in its response to Document 20/21 and Document 20/86R, and in its submission in advance of this consultation (see Section 3.3 above);
- recalls that it approved subsequent leases of 3.6 GHz Band spectrum rights by each of the MNOs and Dense Air to Imagine (see Section 2.6 above). Indeed, in its response to Document 20/86R and in its MNO-specific information provided for the purpose of informing this consultation (see Section 3.2.2 above) Vodafone notes that the increase in capacity resulting from the temporary spectrum rights has facilitated its lease of 3.6 GHz band spectrum to Imagine;
- remains open to assessing any lease notifications it may receive in a

⁵⁷ Although ComReg observes that Eir submits, in its MNO-specific supporting information (as published in Annex 3), that “*The temporary licence regime should be seeking to minimise potential impacts on competition and we believe that Three’s temporary licence should limit liberalisation of its 3G licence to no more than 2x15MHz.*”

ComReg also recalls that Eir, in its submission to Document 20/32, stated that “*eir does not believe it would be appropriate to further extend the temporary liberalisation measures in the 2100MHz band given the material spectrum imbalance that persists*” as published in Document 20/68.

⁵⁸ See, for example, Document 20/88a Part 6 paragraph 4:

“I confirm that the Applicant is fully aware that the 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 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 Licence give it any expectation of favourable treatment with regards to access to liberalised rights of use in those bands.”

timely manner in light of the circumstances surrounding the Temporary Situation; and

- notes that, by way of this consultation, interested parties may provide views on the potential competition impacts of any further licensing framework.

3.5.4 Assessment of the Proposed Approach against ComReg's relevant functions, objectives and duties

3.41 Annex 2 of this Document summarises the relevant statutory framework informing ComReg's consideration of the Proposed Approach.

3.42 Based on the information provided by the MNOs and other available information, ComReg is of the preliminary view that the Proposed Approach would be appropriate in the context of ComReg's functions, objectives and duties, including being objectively justified, non-discriminatory and proportionate.

3.43 In light of the above, ComReg is of the preliminary view that it would, in principle, be appropriate to implement a second further temporary licensing framework

Chapter 4

4 ComReg's licensing proposals

4.1 In this chapter, ComReg:

- provides a summary of the key licensing elements in the previous and current Temporary ECS Licensing Framework;
- sets out relevant information from the MNO requests on the licensing proposals for any second further temporary licensing framework; and
- outlines its preliminary assessment on the material received from the MNOs and its preliminary view on the licensing proposals for any second further temporary licensing framework.

4.1 Summary of the key elements of ComReg's first two Temporary ECS Licensing Frameworks

4.2 In Chapter 3 of Documents 20/21 and 20/27, and Chapter 4 of Documents 20/86R and 20/88, ComReg set out its proposals and final positions, respectively, regarding the following key elements of the Temporary ECS Licensing frameworks implemented to date:

- spectrum bands, assignments and compatibility considerations;
- applicant eligibility and the supporting information requirements;
- licence duration;
- fees; and
- coverage obligations.

4.3 These remain key considerations in connection with any second further temporary licensing framework and, along with other matters, are summarised below.

4.1.1 Spectrum bands, assignments and compatibility considerations

- 4.4 The bands made available in the Temporary ECS Licensing frameworks implemented to date were the 700 MHz Duplex, 2.1 GHz and 2.6 GHz Bands. The 700 MHz Duplex and 2.6 GHz Band (subject to certain restrictions to protect IAA radars) were available for licensing, while “liberalised” 2.1 GHz rights were made available to existing 2.1 GHz licensees.
- 4.5 For deployments in the 700 MHz Duplex, the following potential compatibility issues were identified:
- mobile deployments in the 800 and 900 MHz Bands;
 - broadcasting services below 694 MHz; and
 - cable networks that also use frequencies on their closed networks in the 700 MHz Band.
- 4.6 While the likelihood of compatibility issues arising varied in each case, it was important that appropriate mechanisms were put in place to address any issues that might arise.
- 4.7 First, and in relation to managing inter-MNO interference, the assignment of the blocks to the MNOs in the 700 MHz Duplex was made⁵⁹ in the same order as those assigned in the 800 MHz Band 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.
- 4.8 Second, and in relation to managing any risk to existing networks, an inter-operator 700 MHz Coordination Agreement was established between the three MNOs, 2RN and Virgin Media (as set out in Annex 4 of Document 20/27) and reflected as a licence condition in any Temporary ECS Licence issued.

⁵⁹ Subject to completing the relevant Application Form and satisfying the eligibility and appropriate evidence requirements.

- 4.9 Spectrum rights in the 2.6 GHz Band were also made available but subject to certain geographic restrictions (or “exclusion zones”)⁶⁰ to ensure compatibility between any MFCN⁶¹ deployment and the IAA’s primary radar systems.

4.1.2 Applicant eligibility and supporting information requirements

- 4.10 In Documents 20/21, 20/27, 20/86R and 20/88 ComReg outlined that the underlying intention of the Temporary ECS Licensing framework(s) was to facilitate operators that can readily utilise the 700 MHz Duplex, 2.1 GHz and/or 2.6 GHz bands. In this regard, ComReg noted that operators:

- should use existing infrastructure to meet the demand of consumers during the Temporary Situation noting that operators should only apply for rights of use they can readily use and be in a position to demonstrate same to ComReg;
- should not use the (Further) Temporary ECS Licences for large-scale network rollout not previously planned; and
- should have some flexibility to install or redeploy equipment as needed by consumers during the Temporary Situation and to continue with existing network upgrade plans.

- 4.11 The following applicant eligibility requirements were set out in S.I. 122 of 2020⁶² and in S.I. 407 of 2020⁶³:

“(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

⁶⁰ As set out on in Document “2.6 GHz Band Exclusion Zones.zip” as published on ComReg’s COVID-19: Temporary Spectrum Measures webpage. <https://www.comreg.ie/industry/radio-spectrum/spectrum-awards/covid-19-temporary-spectrum-management-measures/>

⁶¹ Mobile or Fixed Communications Network

⁶² Wireless telegraphy (Temporary Electronic Communications Services Licences) Regulations 2020, Regulation 4(2).

⁶³ The Wireless Telegraphy (Further Temporary Electronic Communications Services Licences) Regulations 2020 ([S.I. No. 407 of 2020](#)) were made on 2 October 2020, with the consent of the Minister for the Environment, Climate and Communications.

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 subparagraph (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."*

4.12 These information requirements were reflected in part 2 of the respective Application Forms⁶⁴.

4.1.3 Licence duration

4.13 In Document 20/27, ComReg:

- noted that any Temporary ECS Licences issued should be short-term and only for the duration of the Temporary Situation; and
- decided that the initial licence duration would be up to 3 calendar months, with the possibility of a 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 licensing regulations.

4.14 The key reasons informing the above were set out in Section 3.3.2 of Document 20/21.

4.15 In Document 20/86R and 20/88, and having considered views submitted by the MNOs that the duration of any further temporary licences would run until the completion of the MBSA2 award, ComReg was of the view that this would not be appropriate and among other things, noted that:

⁶⁴ See Documents [20/27a](#), [20/27aR](#), [20/88a](#) and [20/88aR](#)

- *“the current licensing framework, and indeed any further framework, is a novel intervention intended solely to address the exceptional and extraordinary situation presented by COVID-19 in an objectively justified and proportionate manner in accordance with its statutory obligations”.*
- *“[i]t would clearly not be objectively justified or proportionate to determine the expiry of any further temporary licences by reference to a factor unrelated to the Temporary Situation, i.e. by reference to completion of the Proposed MBSA⁶⁵”; and*
- *“ComReg’s current and proposed approach allows for the carrying out of a regular and orderly review of the relevant facts and circumstances underpinning the licensing framework”.*

4.16 In addition, ComReg stated that it would, of course, continue to monitor the situation over the term of any further licensing framework, to inform its approach to any licensing beyond this period.

4.1.4 Fees

4.17 In Documents 20/27 and 20/88, ComReg set out its final position that a nominal, non-refundable fee of €100 would apply to both the grant of a Temporary ECS Licence, and for any renewal of same. The reasons informing same were set out in Section 3.4 of Document 20/21 and Section 4.3 of Document 20/86R.

4.1.5 Coverage at specific locations

4.18 In the joint MNO request of 24 March 2020, operators requested that they be able to utilise the spectrum to assist in relieving congestion in targeted areas which could include temporary medical facilities. Following consultation in Document 20/21, ComReg decided to include a licence obligation that requires licensees to provide coverage at specific locations related to the Temporary Situation as detailed in Table 6 below.

4.19 In Documents 20/86R and 20/88, ComReg noted that the existing licensing framework is working as expected for the purposes of the Temporary Situation and maintained the same coverage obligation as detailed in Table 6 below.

⁶⁵ Footnote 62 of Document 20/86R. *“Save of course that the assignment of long-term rights of use should not be delayed by any temporary licences.”*

Table 6: Outdoor coverage obligations at specific locations in relation to the extraordinary situation arising from COVID-19

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 the Environment, Climate and Communications.	Best efforts using all rights of use available to the Licensee

4.1.6 Other actions that could be taken

- 4.20 In Document 20/21 and 20/86R, ComReg noted that the Temporary Spectrum Management 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.
- 4.21 ComReg also encouraged and welcomed leasing arrangements, particularly in relation to the 3.6 GHz band.
- 4.22 ComReg also noted the possibility of assigning temporary rights of use in the 2.3 GHz Band and queried whether the 2.3 GHz Band could be of use to operators during the temporary situation. Respondents, however, noted that there is currently a lack of readily available equipment for both operator and consumer and thus this would likely be an ineffective solution for the Temporary Situation.

4.2 Current MNO request

- 4.23 As discussed in Section 3.2, the MNOs *“jointly request that the terms of the current Temporary Spectrum Management Measures detailed in ComReg 20/88 (D08/20) are extended unchanged”*.
- 4.24 In addition and as noted above, Eir submits in its MNO-specific supporting information that *“[t]he temporary licence regime should be seeking to minimise potential impacts on competition and we believe that Three’s temporary licence should limit liberalisation of its 3G licence to no more than 2x15MHz.”*

4.3 Views of other stakeholders

- 4.25 As discussed in Section 3.3 above, Imagine *“fully supports the further extension of the temporary ECS licensing beyond April 2021 for up to 3 months with the possibility of a renewal of up to a further 3 calendar months.”*
- 4.26 In relation to the 700 MHz Duplex, Virgin Media and 2RN continue to provide their support for a further framework subject to the inter-operator 700 MHz Coordination Agreement established between the three MNOs, 2RN and Virgin Media (as set out in Annex 4 of Document 20/27) 700 MHz agreement⁶⁶.
- 4.27 In relation to the 2.6 GHz Band, The IAA continue to provide its support for a further framework, subject to the continued implementation of certain restrictions to protect IAA radars⁶⁷.

4.4 ComReg assessment and preliminary view

- 4.28 First, ComReg observes that the current further temporary licensing framework is generally operating as expected for the purposes of the Temporary Situation. In particular:
- MNOs can utilise the 700 MHz Duplex where they have existing equipment and use the 2.1 GHz Band for 4G use at certain sites to assist in dealing with the increase in data traffic;
 - as discussed in Chapters 2 and 3 above, MNOs have seen a notable increase in voice and data traffic, beyond what they previously forecasted and the MNOs have used the temporary spectrum rights in combination with other actions to alleviate congestion and provide additional capacity to support the provision of ECS services;
 - establishing the Temporary ECS licensing Frameworks has encouraged licensees in the 3.6 GHz band (the three MNOs and Dense Air) to lease spectrum to Imagine (see Section 2.6 above), which has helped Imagine to manage increases in data traffic on its network;
 - the MNOs and Imagine have indicated their support for a 6-month overall duration, consisting of an initial licence of up to 3 months with the possibility of a renewal of up to a further 3 calendar months;
 - the 700 MHz Coordination procedure appears to be working well to adequately manage the risk of any impact on existing networks. Having

⁶⁶ See recent correspondence with Virgin Media and 2RN in Annex 3.

⁶⁷ See recent correspondence with the IAA in Annex 3.

considered the information submitted by the MNOs and also correspondence with Virgin Media and 2RN⁶⁸, ComReg observes that the MNOs indicate that there has been engagement between the various parties (the three MNOs, Virgin Media and 2RN), and that no issues have been reported by any party; and

- the IAA has indicated its support for keeping the existing terms and conditions unchanged.

4.29 Second, since the decision on the Further Temporary ECS Licensing framework in September 2021 (Document 20/88), ComReg has also set out its substantive decision on the MBSA2 in Document 20/122 which among other things, included updated technical conditions (as set out in Section 8.9 of Document 20/122) to reflect the 2020 amending EC Decisions for the 2.1 GHz Band⁶⁹ and 2.6 Band⁷⁰.

4.30 While the purpose of the temporary spectrum rights is to provide capacity for immediate use using existing infrastructure and not enabling new technologies or 5G, it is also the case that the above EU decisions are applicable and ComReg therefore proposes to update the relevant technical conditions of the 2.1 GHz and 2.6 GHz bands to reflect the above EC Decisions for these bands.

4.31 Third, in relation to Eir's submission that a limit of 2 × 15 MHz be placed on the issue of liberalised temporary spectrum rights in the 2.1 GHz band to Three, for the reasons set out in Section 3.5.3 above, ComReg is of the view that the temporary assignment of spectrum rights is unlikely to distort downstream competition over the period of the Temporary Situation. Consequently, ComReg does not propose to adopt Eir's suggestion.

4.32 Noting the above, the MNOs' and Imagine's support for the current terms to remain unchanged, and the latest views of the IAA, 2RN and Virgin Media on 700 MHz Coordination⁷¹, ComReg does not see any basis for implementing a licensing framework materially different to the current framework, with the exception of updating the technical conditions for the 2.1 GHz and 2.6 GHz bands.

4.33 Accordingly, ComReg proposes that the key elements of the existing temporary licensing framework (as summarised in Section 4.1 above) would

⁶⁸ Annex 3 sets out non-confidential ComReg correspondence with Virgin Media and 2RN in this regard.

⁶⁹ EU 2020/667 amending Decision 2012/688/EU as regards an update of relevant technical conditions applicable to the frequency bands 1920 -1980 MHz and 2110 - 2170 MHz.

⁷⁰ EU 2020/636 amending Decision 2008/477/EC as regards an update of relevant technical conditions applicable to the 2 500–2 690 MHz frequency band.

⁷¹ Recent correspondence with IAA, 2RN and Virgin Media is contained in Annex 3

apply under the proposed second further licensing framework.

- 4.34 In relation to ComReg's proposal for a 6-month overall duration for the second further temporary licensing framework, and similar to ComReg's approach in the previous Temporary Spectrum Licensing Frameworks implemented to date, ComReg would, of course, continue to monitor the situation over the term of any further licensing framework, including consideration of ongoing information provided by licensees and other operators (e.g. to the network industry forum) and other relevant information, to inform its approach to any licensing during and beyond this period
- 4.35 Further, to enable operators to effectively plan and cater for long term traffic forecasts, it is critical that regulatory certainty regarding the long-term assignment of the relevant spectrum bands in the MBSA2 is executed as quickly as possible. ComReg reiterates that the existing and any future Temporary ECS Licensing Framework is entirely without prejudice to the MBSA2, and ComReg stresses that any temporary licensing framework should not be construed as an acceptable alternative to this.
- 4.36 In summary, ComReg's preliminary view is that any further temporary ECS licencing framework should have the same licensing conditions as used in the current Temporary ECS Licensing Framework, save for the relevant updates to the technical conditions for the 2.1 GHz and 2.6 GHz bands to take account of the 2020 amending EC decisions for these bands.
- 4.37 Details of these licensing proposals are set out in the draft Second Further Temporary ECS Licence Regulations attached in Annex 4.

Chapter 5

5 Draft Decision

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

Decision

1. DEFINITIONS AND INTERPRETATION

1. 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/EC⁷² as amended by European Commission Decision 2020/667⁷³;

“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/EC⁷⁴ as amended by European Commission Decision 2020/636/EU⁷⁵;

“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;

⁷² 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.

⁷³ Commission Implementing Decision (EU) 2020/667 of 6 May 2020 amending Decision 2012/688/EU as regards an update of relevant technical conditions applicable to the frequency bands 1920 – 1980 MHz and 2110 – 2170 MHz.

⁷⁴ 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.

⁷⁵ Commission Implementing Decision (EU) 2020/636 of 8 May 2020 amending Decision 2008/477/EC as regards an update of relevant technical conditions applicable to the 2500 – 2 690 MHz frequency band.

“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 – 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) 2016/687⁷⁶;

“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;

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

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

“Second Further Temporary ECS Licence Regulations” means the Wireless Telegraphy (SECOND FURTHER TEMPORARY ELECTRONIC COMMUNICATIONS SERVICES LICENCES) Regulations, 2020, as set out in draft form in Annex 3 to ComReg Document 21/16;

“Minister” means the Minister for the Environment, Climate and Communications;

⁷⁶ 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.

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

“**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/EU⁷⁷;

“**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.

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;
 - d) 20/27;
 - e) 20/64;
 - f) 20/86R;
 - g) 20/88;
 - h) 21/05;
 - i) 21/16; and
 - j) 21/[XX] [document to which the final decision will be attached]
- 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, 19/124c and 20/122b;

⁷⁷ Decision No 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multiannual radio spectrum policy programme.

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

and, noting that it has:

- i) 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/[XX] [document to which the final decision will be attached] and their supporting annexes.

3. DECISIONS

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

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

700MHz Duplex and 2.1GHz Bands

- ii. upon application properly being made to it by MNOs for Second Further Temporary ECS Licences with rights of use in the 700 MHz Duplex and 2.1 GHz Bands;
 - a) to select which MNOs will be granted Second Further Temporary ECS Licences in the 700 MHz Duplex and 2.1 GHz bands having regard to the principles generally described in Chapter 4 of Document 21/16 and further particularised in the Second Further 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; to assign 2 x 10 MHz of 700 MHz Duplex to each MNO⁷⁸, but where ComReg reserves the right to make alternative assignments in line with its statutory objectives and duties;
 - b) to grant Second Further 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 Second Further Temporary ECS Licence Regulations, including the schedule to Second Further Temporary ECS Licences as currently set out in Annex 3 of Document 21/16;

2.6 GHz Band

- iii. upon application properly being made to it by an Undertaking for Second Further Temporary ECS Licences in respect of 2.6 GHz Band Blocks, and following consultation with the Irish Aviation Authority;
 - a) to select which MNOs will be granted Second Further Temporary ECS Licences with 2.6 GHz Band Blocks having regard to the principles generally described in Chapter 4 of Document 21/NN and further particularised in the Second Further 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,

⁷⁸ Specifically:

- 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.

the ability of the applicant to deliver services expeditiously using those rights of use;

- b) to grant Second Further 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 Second Further Temporary ECS Licence Regulations, including the schedule to Second Further Temporary ECS Licences as currently set out in Annex 3 of Document 21/NN;
- c) to consider applications for the addition of sites to a Second Further 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

- iv. to make the duration of a Second Further Temporary ECS Licence up to but no longer than 3 calendar months;
- v. upon application properly being made to it, having regard to the principles generally described in Chapter 4 of Document 21/NN and further particularised in the Second Further Temporary ECS Licence Regulations, and the material provided by applicants in support of their renewal, to renew a Second Further Temporary ECS Licence for a further period of up to but no longer than 3 calendar months; and
- vi. that any Second Further Temporary ECS Licence granted or renewed shall in any event expire on 1 October 2021.

4. STATUTORY POWERS NOT AFFECTED

- 4. 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 Submitting comments and next steps

6.1 Submitting Comments

- 6.1 Considering the urgency of the issue, ComReg has set a shorter period compared to the normal four weeks identified in ComReg's Consultation Procedures⁷⁹, and invites input from interested parties by close of business **Wednesday 10 March 2021**.
- 6.2 It would make the task of analysing responses easier if comments were referenced to the relevant section / paragraph number in each chapter and annex in this document.
- 6.3 Please also set out your reasoning and all supporting information for any views expressed.
- 6.4 Responses must be submitted in written form (e-mail) to the following recipient, clearly marked — Submissions to ComReg 21/16:
- Mr. Joseph Coughlan
- Email: marketframeworkconsult@comreg.ie
- 6.5 We request that electronic submissions be submitted in an unprotected format so that they can be readily included in the ComReg submissions document for electronic publication.
- 6.6 ComReg appreciates that respondents may wish to provide confidential information if their comments are to be meaningful. In order to promote openness and transparency, ComReg will publish all respondents' submissions to this consultation, as well as all substantive correspondence on matters relating to this document, subject to the provisions of ComReg's guidelines on the treatment of confidential information (Document 05/24).
- 6.7 In this regard, respondents should submit views in accordance with the instructions set out below. When submitting a response to this consultation that contains confidential information, respondents must choose one of the following options:

⁷⁹ See Document 11/34.

A. Preferably, submit both a non-confidential version and a confidential version of the response. The confidential version must have all confidential information clearly marked and highlighted in accordance with the instruction set out below and include the reasons as to why they consider any particular material to be confidential. The separate non-confidential version must have actually redacted all items that were marked and highlighted in the confidential version.

OR

B. Submit only a confidential version and the reasons as to why they consider any particular material to be confidential, and ComReg will perform the required redaction to create a non-confidential version for publication. With this option, respondents must ensure that confidential information has been marked and highlighted in accordance with the instructions set out below. Where confidential information has not been marked as per our instructions below, then ComReg will not create the non-confidential redacted version and the respondent will have to provide the redacted non-confidential version in accordance with option A above.

6.8 For ComReg to perform the redactions under Option B above, respondents must mark and highlight all confidential information in their submission as follows:

- a. Confidential information contained within a paragraph must be highlighted with a chosen particular colour,
- b. Square brackets must be included around the confidential text (one at the start and one at the end of the relevant highlighted confidential information),
- c. A Scissors symbol (Symbol code: Wingdings 2:38) must be included after the first square bracket.

6.9 For example, “Redtelecom has a market share of [✂ 25% ✂].”

6.2 Next Steps

6.10 Following receipt and consideration of submissions in response to this consultation, and other relevant material, ComReg intends to publish a response to consultation together with its final decision.

- 6.11 While ComReg cannot provide further clarity on the overall timelines at this juncture, as this will depend, among other things, on the nature of responses received to this consultation, ComReg endeavours to issue the response to consultation and decision in sufficient time to allow for the making of the regulations and issuing of licences prior to 1 April 2021.

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 3400 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 2300 – 2400 MHz
2.6 GHz Band	The frequency range 2500 – 2690 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 Declaration Form	Paragraph 4 of Part 6 of the Application Form
Application Form	ComReg Document 20/[XX]a [document to which the final decision will be attached]
Appropriate Evidence	<p>The Application Form (Document 20/[XX]a) [document to which the final decision will be attached] includes required information including:</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; • 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
COVID-19	COVID-19 is an illness that can affect your lungs and airways and is caused by a virus called SARS-CoV-2 (2019-nCoV) coronavirus.
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.

MBSA2	ComReg's Multi-Band Spectrum Award project for the long-term assignment of spectrum rights of use in the 700 MHz Duplex, 2.1 GHz, 2.3 GHz and 2.6 GHz bands Further information is available at https://www.comreg.ie/industry/radio-spectrum/spectrum-awards/proposed-multi-band-spectrum-award/
Native Wi-Fi	Native Wi-Fi technology, allows calls and texts to be made on a device utilising a Wi-Fi connection rather than through the mobile network directly.
Proposed Approach	ComReg's consideration of the approach as set out in this Document.
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 Licences	Means a licence of the type set out in draft form in Schedule 1 to the Temporary ECS Licence Regulations (S.I. No. 122 of 2020).
Temporary ECS Licence Regulations	Means the Wireless Telegraphy (Temporary Electronic Communications Services Licences) Regulations, S.I. No. 122 of 2020
Further Temporary ECS Licences	Means a licence of the type set out in draft form in Schedule 1 to the Further Temporary ECS Licence Regulations (S.I. No. 407 of 2020).
Further Temporary ECS	Means the Wireless Telegraphy (Further Temporary Electronic Communications Services Licences) Regulations, (S.I. No. 407 of 2020).

Licence Regulations	
Second Further Temporary ECS Licence Regulations	Means the draft regulations as set out in Annex 4 of 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 as COVID-19.
Temporary Spectrum Management Measures	Refers to the Temporary ECS Licences and Further Temporary ECS Licences as granted by ComReg in response to the Temporary Situation.

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
CSO	Central Statistics Office
DCCAE	Department of Communications, Climate Action and the Environment
DECC	Department of the Environment, Climate and Communications

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 and EC Decisions

S.I.	Statutory Instrument
2002 Act	The Communications Regulation Act 2002 (No. 20 of 2002), as amended ⁸⁰
Authorisation Regulations	European Communities (Electronic Communication Networks and Services) (Authorisation) Regulations 2011 (S.I. No 335 of 2011)
2.1 GHz EC Decision	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

⁸⁰ Includes the Communications Regulation (Amendment) Act 2007 and the Communications Regulation (Premium Rate Services and Electronic Communications Infrastructure) Act 2010.

	communications services in the Union. (2012/688/EU) as amended by European Commission Decision 2020/667 ⁸¹
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 as amended by European Commission Decision 2020/636/EU ⁸²
700 MHz EC Decision	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.
700 MHz EU Decision	Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470 – 790 MHz frequency band in the Union.
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

⁸¹ Commission Implementing Decision (EU) 2020/667 of 6 May 2020 amending Decision 2012/688/EU as regards an update of relevant technical conditions applicable to the frequency bands 1920 – 1980 MHz and 2110 – 2170 MHz.

⁸² Commission Implementing Decision (EU) 2020/636 of 8 May 2020 amending Decision 2008/477/EC as regards an update of relevant technical conditions applicable to the 2500 – 2 690 MHz frequency band.

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)
Hertz	Unit of Frequency
kHz	Kilohertz (1 000 Hertz)
LTE	Long Term Evolution of 3G
MFCN	Mobile/fixed communications networks
MHz	Megahertz (1 000 000 Hertz)
MNO	Mobile Network Operator
TDD	Time Division Duplex
UMTS	Universal Mobile Telecommunications System.
VoLTE	Voice over Long Term Evolution
VOIP	Voice over Internet Protocol

Annex: 2 Legal Framework and Statutory Objectives

- A 2.1 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 Directives⁸³ as transposed into Irish law by the corresponding Framework and Authorisation Regulations⁸⁴), and the Wireless Telegraphy Acts 1926 to 2009⁸⁵ 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 2.2 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.
- A 2.3 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.

⁸³ 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”).

⁸⁴ 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.

⁸⁵ The Wireless Telegraphy Acts 1926 to 1988 and Sections 181 (1) to (7) and (9) and Section 182 of the Broadcasting Act 2009.

A 2.4 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 2.5 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. 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 2.6 With some limited exceptions (see Article 124 of the EECC), Member States had until 21 December 2020 to transpose the EECC into national law⁸⁶. The DECC is responsible for the transposition of the EECC and ComReg has assisted the DECC in that regard as appropriate.

A 2.7 ComReg understands that the EECC is unlikely to be transposed into national law until circa end Q1 2021 or early Q2 2021. However, for the avoidance of doubt, electronic communications providers must continue to comply with their obligations, ComReg will continue to regulate the electronic communications sector under its existing powers, and redress mechanisms for customers will continue unchanged until new legislation is introduced.

A 2.8 Notwithstanding, and for the avoidance of doubt, ComReg is satisfied that, to the best of its knowledge, the granting of Temporary ECS Licences for the purposes of the Temporary Situation, and under the conditions described in this document, would not conflict with the objectives of the EECC or the obligations likely to be imposed on ComReg under national legislation implementing same.

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

A 2.9 ComReg’s primary objectives in carrying out its statutory functions in the context of electronic communications are to:

- promote competition⁸⁷;
- contribute to the development of the internal market⁸⁸;

⁸⁶ With the exception of Articles 53(2), (3) and (4), and Article 54 (See Article 124).

⁸⁷ Section 12 (1)(a)(i) of the 2002 Act.

⁸⁸ Section 12 (1)(a)(ii) of the 2002 Act.

- promote the interests of users within the Community⁸⁹;
- ensure the efficient management and use of the radio frequency spectrum in Ireland in accordance with a direction under section 13 of the 2002 Act⁹⁰; 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 Regulations⁹¹ in particular those designed to ensure effective competition⁹².

A2.1.1 Promotion of Competition

A 2.10 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
- encouraging efficient use and ensuring the effective management of radio frequencies and numbering resources.

A 2.11 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

⁸⁹ Section 12(1)(a)(iii) of the 2002 Act.

⁹⁰ 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.

⁹¹ 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).

⁹² Regulation 16(1)(a) of the Framework Regulations.

- ensure that, in the transmission of content, there is no distortion or restriction of competition in the electronic communications sector.

A 2.12 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 2.13 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 2.14 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 2.15 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 2.16 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 2.17 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 2.18 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 2.19 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;⁹³
- have regard to international developments with regard to the radio frequency spectrum⁹⁴; and
- take the utmost account of the desirability that the exercise of its functions aimed at achieving its radio frequency management

⁹³ Section 12(3) of the 2002 Act.

⁹⁴ Section 12(5) of the 2002 Act.

objectives does not result in discrimination in favour of or against particular types of technology for the provision of ECS.⁹⁵

A2.1.7 Policy Directions⁹⁶

A 2.20 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.

A 2.21 The Policy Directions which are most relevant in this regard include the following:

Policy Direction No.3 on Broadband Electronic Communication Networks

A 2.22 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 2.23 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

⁹⁵ Section 12(6) of the 2002 Act.

⁹⁶ 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.

such decisions on the sustainability of the business of undertakings affected.

Policy Direction No.5 on Regulation only where necessary

- A 2.24 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 2.25 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 2.26 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 2.27 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 2.28 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 2.29 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 2.30 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 2.31 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 2.32 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 2.33 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 2.34 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 2.35 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 2.36 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 2.37 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 2.38 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 2.39 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 2.40 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 2.41 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 2.42 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 2.43 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 2.44 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 2.45 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 2.46 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 2.47 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 2.48 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 2.49 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 2.50 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 2.51 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 2.52 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 2.53 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 2.54 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 2.55 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 2.56 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 2.57 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 2.58 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 2.59 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 2.60 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 2.61 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 2.62 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 2.63 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.”*

Annex: 3 Request from operators including supporting information and correspondence from other interested parties

2RN

To: Conor Berkeley
Subject: RE: Further Temporary Spectrum Measures - 700 MHz Band

From: Johnny Evans [REDACTED]
Sent: 02 March 2021 09:18
To: Conor Berkeley [REDACTED]
Subject: RE: [Confidential] Further Temporary Spectrum Measures - 700 MHz Band

Hi Conor,
We are content with the current agreement and believe that it still remains current and relevant to us. Thanks again for keeping us involved.
Regards, Johnny

Johnny Evans
Head of Projects and Coverage Planning
2RN
Block B, Cookstown Court, Old Belgard Road, Tallaght, Dublin 24, Ireland
D24 WK28
Phone: [REDACTED]
Mobile: [REDACTED]

From: Conor Berkeley [REDACTED]
Sent: 25 February 2021 15:38
To: Johnny Evans [REDACTED]
Subject: [Confidential] Further Temporary Spectrum Measures - 700 MHz Band

Hi Johnny,

As you may aware the current temporary licences held by the three MNO's operating in the 700 MHz band will expire on 1 April 2021 and ComReg is in the process of considering requests for another further temporary spectrum framework as a result of the ongoing pandemic. It is proposed that the current agreement remains in place with respect to the 700 MHz band between 2RN, Virgin Media and the MNO's with regards to any further temporary spectrum measure framework.

Could you please respond by email to confirm that RTÉ/2RN are content with the current 700 MHz agreement and that it remains appropriate and relevant to RTÉ/2RN requirements in relation to possible further temporary spectrum measures that may be implemented by ComReg?

Kind regards,
Conor

Conor Berkeley

Bainisteoir, Comhoiriúnacht & Forbairt Speictrim
Manager, Spectrum Compatibility & Development

An Coimisiún um Rialáil Cumarsáide

Commission for Communications Regulation

Uimh. a hAon Lárcheantar na nDugaí, Sráid na nGildeanna, BÁC 1, Éire, D01 E4X0

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09 February 2021

Re: Extension of Temporary Spectrum Assignments (Covid-19)

Dear Jeremy,

This common letter is sent from the CEOs of Ireland's three mobile network operators and is a follow-up to the previous letters from March and September last year requesting ComReg to assign spectrum to the mobile networks on a temporary basis. ComReg responded positively to those requests by assigning spectrum on a temporary basis and all three network operators have been able to use the resulting temporary licences to the benefit of their customers. In the face of the ongoing exceptional circumstances arising from the Covid-19 pandemic the purpose of this letter is to request further extension of the temporary licences in accordance with ComReg 21/05.

Introduction

Just like many countries around the world, Ireland has experienced a massive shock. The health measures necessary to prevent spread of Covid-19 have forced us all to change our home life and work life massively. We have been reminded of the importance of modern communications networks and they have played a pivotal role in allowing people to continue work while staying at home but also to maintain vital connectivity for social purposes.

Unfortunately the pandemic continues to surge globally and in Ireland we are now experiencing the "Third Wave" with recent Covid-19 related daily death rates higher than at any time in 2020. The Level 5 restrictions have been extended until at least March 5th at this time, and it seems likely that these measures will be extended even further. It seems we will need to live with Covid-19 for some time yet while the national vaccination programme is implemented and its efficacy is demonstrated.



Changed Practices

The change to working practice, the move to online education and the change to social interaction that was forced upon us over the last year is likely to have a lasting effect. We have seen an acceleration in the change in ways of working, which would previously have been expected over several years but have now been adopted in a matter of months. Mobile networks have contributed strongly towards supporting this change in the quantity and location of offered traffic by rapidly changing our network build plans supporting the changing traffic patterns, often to support traffic in commuter towns and in rural areas.

In the coming months we continue to face further uncertain changes in traffic patterns. It is hoped that the situation will improve in the coming months such that the Government can reduce some of the restrictions, e.g. pupils will return to school and workplaces will adopt new working models. Supporting customers through this changing demand will only be possible through further investment in networks including mobile networks, particularly in the rural areas that do not currently have sufficient connectivity. It is impossible to predict where local surges will occur, so service providers must prepare on the basis that they could be anywhere.

Spectrum Licensing is Critical

The Temporary Spectrum Licences first issued by ComReg in April have helped in an important way to meet the new demands placed on mobile networks. In mid-March when measures to prevent spread of Covid-19 were announced all mobile operators experienced an immediate and significant growth in average and peak throughput for both voice and data. The physical location of the demand also changed – out of city centres to residential areas.

The rapid enactment of the Temporary Spectrum Measures by ComReg has allowed operators to support this traffic at performance measures similar to those achieved pre-Covid. As new infrastructure cannot be built at short notice, and as operators had already adjusted network configuration to the maximum extent, the Temporary Spectrum Measures have been crucial to giving mobile operators flexibility to mitigate significant congestion in voice and data networks.

As we move forward in the coming months and the next phases of action dealing with Covid, it is important that ComReg should ensure that the current Temporary Spectrum Licences continue past the 7th April date of the current regulation. We ask that these measures are extended at least on the same basis as previously in three monthly periods.

This will enable operators to build capacity in the different locations required and, importantly, to invest efficiently. Building new sites to cope with any short term demand in advance of the 2021 Spectrum auction would be extremely inefficient.

We acknowledge that ComReg has stressed that any temporary licensing framework is intended solely to address the exceptional and extraordinary situation presented by COVID-19 and that it is entirely without prejudice to the award of long-term rights of use in these spectrum bands in its proposed multi-band spectrum award.



The mobile operators have worked closely with ComReg and Government in supplying ongoing information on network stability and traffic. In using the temporary rights we have also carefully managed the risks to the provision and quality of existing ECS through careful co-ordination with other radio spectrum users and cable companies. We are confident that we can maintain this high level of cooperation through an extended Temporary Licence period.

Noting ComReg's request in document 21/05 for a joint submission from Operators setting out the specific details of the joint/common request, we now wish to jointly request that the terms of the current Temporary Spectrum Management Measures detailed in ComReg 20/88 (D08/20) are extended unchanged.

Each Operator will in addition make a separate submission to Comreg giving the details of their network traffic etc., supplying the information detailed in ComReg 21/05 paragraphs 32 A-G.

We will continue to work closely with ComReg through your ongoing network industry forum and through the supply of any required information. We assure you of our ongoing commitment to supporting the changed economy in Ireland and request that you proceed to consider our application as soon as possible.

Yours sincerely,

A handwritten signature in black ink that reads "Carolan Lennon". The signature is written in a cursive, slightly slanted style.

Carolan Lennon
CEO

Non-Confidential

Meteor Mobile Communications Ltd (MMC) material in support of request to extend the Covid-19 Temporary ECS Licensing regime

The following material is provided and should be read in conjunction with Carolan Lennon’s letter to Commissioner Godfrey dated 2nd September 2020 (the CEO letter).

A. Network traffic / capacity / performance information

(i) available information regarding the traffic (voice and data), capacity and performance of the network considering the temporary and extraordinary situation arising from COVID-19. In particular, the changes in network traffic (voice and data), capacity and performance from pre-COVID-19 until now.

MMC: We have seen very significant Voice and Data Traffic growth since the emergence of this extraordinary situation arising from Covid-19.

Data traffic growth in particular has continued since the initial national lockdown and sustained such growth throughout 2020. While the data traffic in the network has been growing over recent years however, the trend line shown in Figure 1 below indicates an inflection point in the 2020 data traffic growth starting in March coinciding with the commencement of Covid 19 movement restrictions which have continued with some variation in the restrictive measures. It should also be noted with the move to home based working the locations of the traffic has also changed and so the traffic profile per cell and site has altered as a result of Covid 19.

[REDACTED]

Trendlines from the two years prior to 2020 shows modest growth while 2020 has a steeper growth, averaging [REDACTED] per month when the seasonal May and September months are included. Data Traffic in Figure 1 has grown by over [REDACTED] from period March to January 2021. It is notable that January 2021 has seen an [REDACTED] growth on the December 2020 data volume, indicating the data growth arising from Covid 19 has not yet abated.

eir’s mobile voice traffic has been flat for recent years but in March 2020 a step change occurred when the arrival of Covid-19 resulted in the first lockdown. While this surge fell back somewhat, Figure 2 below shows clearly that voice traffic is still above pre-Covid 19 levels. Figure 2 illustrates the trend for Voice traffic throughout 2020 benchmarked against prior years.

[REDACTED]

Analysis of the voice traffic volumes in Figure 2 Average shows the average voice traffic from March 2020 to January 2021 has grown by over [REDACTED] as compared with the period from March 2019 to February 2020.

(ii) information on the expected traffic demand and network capacity beyond 1 April 2021.

MMC: We expect Data traffic to continue on the same growth trajectory over the coming months particularly as the country remains at Level 5 restrictions.

Voice traffic is expected to be sustained at its new elevated level with potential further growth for the coming months.

Non-Confidential

(iii) observations on how much of the changes in traffic and capacity is due to forecasted annual changes that would be expected on a network in the normal course (accounting for seasonal changes and projected market developments in the absence of COVID-19) and those that can reasonably be considered to be directly related to Government COVID-19 measures.

MMC: We have provided voice and data trends for the last 5 years, the very significant growth in 2020 is very evident versus the prior year growth trajectory as noted in response (i) above. Data traffic growth during 2020 was [3< 3<] as compared with [3< 3<] in the same period in 2019, in effect [3< 3<] data traffic growth is attributable to Covid-19 in comparing the same period from 2019. Voice traffic was flat in the same period 2019, so the full growth of over [3< 3<] is attributable to Covid-19.

B. Ability to make use of existing temporary spectrum assignments in any further Temporary ECS Licensing framework

(i) information regarding the number, locations and deployment dates of sites/transmitters and technology (e.g. UMTS, LTE etc...) for each spectrum band that have been used to date using an existing Further Temporary ECS Licence.

MMC: Please see attached file ([3< 3<]) which details sites activated to date. eir mobile has extensively utilised the Temporary ECS licences averaging over [3< 3<] site upgrades utilising 700MHz every month over the period. eir mobile has utilised the 700MHz band as an additional capacity layer on the upgraded sites and despite the very significant growth in particular of data traffic has continued to improve data throughputs on these sites.

eir mobile is also activating 2100MHz for LTE while seeking to balance 2100MHz to support voice and data service requirements across our network. We note that Three's legal challenge of the MBSA2 Decision may create a delay in the permanent liberalisation of the existing 3G licences. eir does not believe it is appropriate that Three's actions should be allowed to delay the implementation of liberalisation particularly where Three is able to benefit from that delay with the temporary liberalisation of twice as much spectrum as its competitors. The temporary licence regime should be seeking to minimise potential impacts on competition and we believe that Three's temporary licence should limit liberalisation of its 3G licence to no more than 2x15MHz.

It is also worth noting, in the spirit of the license application, eir has not leveraged these bands for 5G. It is our understanding that the temporary spectrum is intended to augment capacity for the mass market and should not be used for new business development such as nascent 5G rollout. It may be helpful for ComReg to issue a reminder to all Licensees in this regard.

(ii) the number of sites/transmitters for each spectrum band that an MNO would expect to use over the duration of any further Temporary ECS Licensing framework.

MMC: Over the lifetime of this proposed extension eir would envisage a further [3< 3<] sites would be enabled in both the 700MHz and 2100MHz bands to continue to assist the growing demands on voice and data services.

C. How temporary rights have assisted with the provision of ECS in the State

(i) how existing temporary rights have assisted in alleviating the network capacity/performance constraints to-date. Please provide available information highlighting trends where the network capacity/performance improvements are correlated to use of temporary ECS rights of use. For example, when temporary ECS rights of use were brought into use the network / capacity improvements observed at these times.

MMC: It has already been shown above how the total traffic on the network has grown since Covid. It is also worth noting the step change in the traffic per subscriber that has occurred since Covid-19 arrived. This is seen in Figure 3 below. The addition of LTE700 has helped to accommodate this traffic growth. [3< 3<]

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The availability of ECS via the Temporary License Scheme has assisted in the accommodation of this traffic growth on the network.

[REDACTED]

As illustrated ~ [REDACTED] of data traffic has been supported by the 700MHz and 2100MHz bands respectively in January 2021. eir anticipates a continuation of L700 activation under an extended temporary licence to assist manage continued data traffic growth in the coming months.

[REDACTED]

(ii) how temporary rights may materially assist over the duration of any further Temporary ECS Licensing framework.

MMC: The temporary rights will continue to allow mobile network operators to make available additional capacity to meet the increased demand for mobile network services, particularly data, allowing citizens to engage socially and economically during these challenging times. eir has activated VoLTE to complement our existing Voice over WiFi service, thus enabling the refarming of some 2100Mhz for LTE. This further enhances capacity availability on an extensive base of network sites. It is difficult to predict where and when demand will shift. Having the licences available nationally allows contingent capacity to be made available which can help absorb the impacts on demand arising from lockdown measures (localised or otherwise).

D. Managing the risks to the provision and quality of existing ECS given the use of the temporary spectrum rights

(i) information regarding the management of risks to the provision and quality of existing ECS and the measures taken to date by the MNO. For example, the key measures taken on foot of Annex 4 of Document 20/27 - 700 MHz Coordination procedures.

MMC: eir mobile has worked and co-ordinated extensively with all other operators in planning the activation of 700Mhz, in particular eir mobile had extensive engagement with Virgin Media on site activation to enable their testing pre/post activation and mitigate the risk of interference to their CATV services during the first phase of L700 activation. This has been successful on the basis that no interference was noted by Virgin Media upon eir mobile site activations and eir mobile has continued to maintain very close co-ordination week to week with Virgin Media and the other mobile operators. The coordination procedures are working really well with the other operators

E. The risk of congestion and other disruption to consumer services and the locations where it would most likely arise in the event of no further Temporary ECS Licensing framework identifying if such congestion or disruption would reasonably be considered to be due to COVID-19 matters or mobile market developments / commercial strategy matters.

MMC: The risk of congestion or degraded service is very real throughout Ireland in the event of no further Temporary ECS Licensing framework, the voice and traffic growth is network wide with a continued guideline to work from home where possible in addition to the implementation of further lockdown measures from time to time such as the temporary closure of schools. As highlighted in the CEO letter *“Building new sites to cope with any short term demand in advance of the 2021 Spectrum auction would be extremely inefficient”*. In the scenario where the licenses are not renewed the capacity of the LTE700 band along with the improved customer experience resulting from the refarming of the 2100 band from UMTS to LTE would be removed resulting in lower customer experience and increased congestion impacting the ability of citizens to work, learn, and engage in society.

Non-Confidential

F. Details of the preparations and actions that the MNO has taken and would need to take in the event of no further Temporary ECS Licensing framework

MMC: eir mobile continues to transform its network, building new infill and capacity sites, increase 5G network sites and deploy VoLte. These programmes of work have continued throughout the emergency and assist to enhance service for eir customers and will continue through 2021 but are complimented by the Temporary ECS Licensing framework. A discontinuation of the Temporary Licensing framework will result in service degradation where traffic growth continues at elevated levels due to the impact of Covid 19 restrictions as per trendline year to date.

G. Any other factors that the MNOs deem relevant to the consideration of any further Temporary ECS Licensing framework

MMC: As noted in the CEO letter *“We acknowledge that ComReg has stressed that any temporary licensing framework is intended solely to address the exceptional and extraordinary situation presented by COVID-19 and that it is entirely without prejudice to the award of long-term rights of use in these spectrum bands in its proposed multi-band spectrum award.”* eir mobile would like to stress that extending the temporary licensing regime will not negatively impact ComReg’s longer term plans for the next spectrum award. eir mobile notes the positive short term benefits that accrue to citizens and society from extending the temporary licensing framework.

Irish Aviation Authority (IAA)

To: Conor Berkeley
Subject: RE: Further Temporary Spectrum Measures - Radars and the 2.6 GHz Band

From: MCGRATH Patrick [REDACTED]
Sent: 02 March 2021 14:15
To: Conor Berkeley [REDACTED]
Subject: RE: [Confidential] Further Temporary Spectrum Measures - Radars and the 2.6 GHz Band

Hi Conor,

The IAA support the temporary spectrum measures as outlined.

I can confirm that the current 2.6 GHz band technical conditions remain appropriate and relevant to the IAA's requirements in relation to possible further temporary spectrum measures implemented by ComReg.

Regards,

Paddy.

Patrick McGrath
National Aeronautical Frequency Manager

Irish Aviation Authority,
Control Tower Building,
Huntstown,
Co. Dublin,
K67 FD45
Ireland.



From: Conor Berkeley
Sent: 25 February 2021 15:45
To: MCGRATH Patrick [REDACTED]
Subject: [Confidential] Further Temporary Spectrum Measures - Radars and the 2.6 GHz Band

Hi Paddy,

As you may be aware the current temporary licences held by the three MNO's will expire on 1 April 2021. ComReg is currently in the process of considering requests for another further temporary spectrum framework as a result of the ongoing pandemic.

The current framework in place implements a number of technical conditions to ensure protection of the IAA's radars operating in the 2.7 GHz band with any potential deployment of MFCN in the 2.6 GHz. These conditions include:

- Imposing exclusion zones defined by Figures 4.3, 4.5, 4.6 and 5.3 of the Plum Report (ComReg 19/124c)
- Implementing power flux density limits and
- Ensuring applicants provide relevant site details to IAA (site height, antenna orientation and coverage plots)

ComReg is in the process of considering requests for further temporary spectrum measures by operators. As part of this process ComReg would not be proposing any changes to the current conditions in place with respect to temporary licences in the 2.6 GHz band and IAA Primary Aeronautical Radars.

Could you please respond by email to confirm that the current 2.6 GHz band technical conditions remain appropriate and relevant to the IAA's requirements in relation to possible further temporary spectrum measures implemented by ComReg?

Kind regards,
Conor

Conor Berkeley

**Bainisteoir, Comhoiriúnacht & Forbairt Speictrim
Manager, Spectrum Compatibility & Development**

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

Uimh. a hAon Lárcheantar na nDugaí, Sráid na nGildeanna, BÁC 1, Éire, D01 E4X0
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Rphost | Email [REDACTED]

Suíomh | Website www.comreg.ie



Imagine Communications Group

Mr. Joseph Coughlan
Commission for Communications Regulation
One Dockland Central Guild Street
Dublin 1
D01 E4X0
Ireland

17TH February, 2021

Re: **COVID-19: Potential Further Temporary ECS Licensing (ComReg 21/05)**

Dear Joseph,

Imagine fully supports the ongoing work being carried out by ComReg in response to the COVID-19 pandemic and the measures taken by the Government to deal with it. This includes our ongoing participation in the network industry forum and support for the temporary assignment of spectrum rights of use.

As noted in the information notice¹ Imagine's network has experienced significant data traffic volume increases compared to pre COVID-19 levels. The latest reports from our network indicate Monthly Average Data Traffic per subscriber in January 2021 has increased further to a level far higher than seen previously and significantly higher than the latest available figures, reported in 2020 Q3, for any network including cable and FTTP.

Pre COVID-19 the expected annual growth in traffic per subscriber would typically have been around 10% with exceptions when new technologies or services, planned in advance, were introduced enabling a greater step change in growth. In the last 12 months from January 2020 to January 2021 we have experienced an unplanned growth in traffic per subscriber multiple times this level.

In March 2020 alone we saw a single step change in the order of 30% growth in traffic per subscriber and whilst the growth rate at times slowed, very briefly declined and increased again due to factors such as holidays, seasonal events and multiple changes in the scale and scope of restrictions it is likely that any reduction in traffic levels will occur very gradually and could permanently remain between 20-30% above pre COVID-19 predictions due to changes to business and social behaviours.

Imagine has taken multiple measures to meet this demand and maintain service levels, including capacity expansions, modifications to network configurations and the introduction of additional sites, Imagine have also been able to make use of additional spectrum through the agreed suspension of 3.6GHz transition activities and short term Lease Licences.

Based on current communications from Government and Ministers Imagine expect that although relaxation of restrictions for specific groups and activities will occur some restrictions will remain in place

¹ ComReg 21/05, COVID-19: Potential Further Temporary ECS Licensing

for at least three and possibly up to six months and as a result the elevated traffic levels due Covid-19 will continue during this period.

Imagine believes that the use of spectrum facilitated by the temporary licensing framework will continue to be the most effective way in the short term to meet the increased demand pending the permanent assignment of licences via the upcoming Multi-Band Spectrum Award.

With that in mind Imagine fully supports the further extension of the temporary ECS licensing beyond April 2021 for up to 3 months with the possibility of a renewal of up to a further 3 calendar months.

Yours sincerely,

Mike Stacey
Chief Technology and Innovation Officer
Imagine Communications Group

Three Ireland (Hutchison) Limited



Three Ireland (Hutchison) Limited.
Registered Office:
28/29 Sir John Rogerson's Quay,
Dublin 2, Ireland.

Jeremy Godfrey
Commissioner
Commission for Communications Regulation
1 Dockland Central
Guild Street
Dublin 1
D01 E4X0

By email only: jeremy.godfrey@comreg.ie

Thursday, 11 February 2021

Re: Extension of Temporary Spectrum Assignments (Covid-19)

Dear Jeremy,

This common letter is sent from the CEOs of Ireland's three mobile network operators and is a follow-up to the previous letters from March and September last year requesting ComReg to assign spectrum to the mobile networks on a temporary basis. ComReg responded positively to those requests by assigning spectrum on a temporary basis and all three network operators have been able to use the resulting temporary licences to the benefit of their customers. In the face of the ongoing exceptional circumstances arising from the Covid-19 pandemic the purpose of this letter is to request further extension of the temporary licences in accordance with ComReg 21/05.

Introduction

Just like many countries around the world, Ireland has experienced a massive shock. The health measures necessary to prevent spread of Covid-19 have forced us all to change our home life and work life massively. We have been reminded of the importance of modern communications networks and they have played a pivotal role in allowing people to continue work while staying at home but also to maintain vital connectivity for social purposes.

Unfortunately, the pandemic continues to surge globally and in Ireland we are now experiencing the "Third Wave" with recent Covid-19 related daily death rates higher than at any time in 2020. The Level 5 restrictions have been extended until at least March 5th at this time, and it seems likely that these measures will be extended even further. It seems we will need to live with Covid-19 for some time yet while the national vaccination programme is implemented and its efficacy is demonstrated.

Changed Practices

The change to working practice, the move to online education and the change to social interaction that was forced upon us over the last year is likely to have a lasting



effect. We have seen an acceleration in the change in ways of working, which would previously have been expected over several years but have now been adopted in a matter of months. Mobile networks have contributed strongly towards supporting this change in the quantity and location of offered traffic by rapidly changing our network build plans supporting the changing traffic patterns, often to support traffic in commuter towns and in rural areas.

In the coming months we continue to face further uncertain changes in traffic patterns. It is hoped that the situation will improve in the coming months such that the Government can reduce some of the restrictions, e.g. pupils will return to school and workplaces will adopt new working models. Supporting customers through this changing demand will only be possible through further investment in networks including mobile networks, particularly in the rural areas that do not currently have sufficient connectivity. It is impossible to predict where local surges will occur, so service providers must prepare on the basis that they could be anywhere.

Spectrum Licensing is Critical

The Temporary Spectrum Licences first issued by ComReg in April have helped in an important way to meet the new demands placed on mobile networks. In mid-March when measures to prevent spread of Covid-19 were announced all mobile operators experienced an immediate and significant growth in average and peak throughput for both voice and data. The physical location of the demand also changed – out of city centres to residential areas.

The rapid enactment of the Temporary Spectrum Measures by ComReg has allowed operators to support this traffic at performance measures similar to those achieved pre-Covid. As new infrastructure cannot be built at short notice, and as operators had already adjusted network configuration to the maximum extent, the Temporary Spectrum Measures have been crucial to giving mobile operators flexibility to mitigate significant congestion in voice and data networks.

As we move forward in the coming months and the next phases of action dealing with Covid, it is important that ComReg should ensure that the current Temporary Spectrum Licences continue past the 1st of April date of the current regulation. We ask that these measures are extended at least on the same basis as previously in three monthly periods.

This will enable operators to build capacity in the different locations required and, importantly, to invest efficiently. Building new sites to cope with any short-term demand in advance of the 2021 Spectrum auction would be extremely inefficient.

We acknowledge that ComReg has stressed that any temporary licensing framework is intended solely to address the exceptional and extraordinary situation presented



Three Ireland (Hutchison) Limited.
Registered Office:
28/29 Sir John Rogerson's Quay,
Dublin 2, Ireland.

by COVID-19 and that it is entirely without prejudice to the award of long-term rights of use in these spectrum bands in its proposed multi-band spectrum award.

The mobile operators have worked closely with ComReg and Government in supplying ongoing information on network stability and traffic. In using the temporary rights, we have also carefully managed the risks to the provision and quality of existing ECS, through careful co-ordination with other radio spectrum users and cable companies. We are confident that we can maintain this high level of cooperation through an extended Temporary Licence period.

Noting ComReg's request in document 21/05 for a joint submission from Operators setting out the specific details of the joint/common request, we now wish to jointly request that the terms of the current Temporary Spectrum Management Measures detailed in ComReg 20/88 (D08/20) are extended unchanged.

Each Operator will in addition make a separate submission to ComReg giving the details of their network traffic etc., supplying the information detailed in ComReg 21/05 paragraphs 32 A-G.

We will continue to work closely with ComReg through your ongoing network industry forum and through the supply of any required information. We assure you of our ongoing commitment to supporting the changed economy in Ireland and request that you proceed to consider our application as soon as possible.

Yours Sincerely,

Robert Finnegan
CEO, Three.

Extension to Temporary Spectrum

Three Ireland

1. Network and Capacity Information (32A)

Voice traffic volumes remain elevated above our baseline level. Voice tends to peak at times coinciding with changes to the level of restrictions in place to combat Covid-19, as can be seen below.

[3< Confidential section

end confidential section]

For data traffic, the impact of Covid-19 restrictions is much more significant. As can be seen in the following two graphs, the increase in both busy hour and total daily traffic has been sustained throughout the different levels of restriction. Data traffic has continued to out-grow forecasts and the geographical location of the traffic remains altered from what we would expect if restrictions were removed.

[3< Confidential section

end confidential section]

We are sharing with ComReg the current forecast which includes the impact of Covid-19 for data traffic on Three's network to September 2021. This forecast takes us through the expected lifetime of the Temporary Licences to when we might expect that circumstances will have changed. It shows two trend-lines – our baseline forecast excluding Covid-19 effects and the adjusted forecast which assumes ongoing measures that restrict normal behaviour.

[3< Confidential section

end confidential section]

As can be seen, we anticipate ongoing growth in baseline traffic during 2021, but we must also include the uplift in traffic resulting from Covid-19 restrictions which gives significant growth above our baseline. Normal network improvement measures (including the deployment of additional spectrum, equipment, and sites) can be expected to meet normal growth in demand. These increases need to be planned for in advance and take time to deliver. We do not believe it would be possible to expand network capacity to meet the uplifted demand growth without access to the Temporary Licences. There is a layer to traffic demand which is still unpredictable at this time, including the location of that demand. Building new sites and rolling out equipment is both slow and expensive and it would not be practical or efficient at this time to try to reconfigure our network to meet that demand – certainly for a short term demand. We anticipate that normal peaks in demand (mid-term, Easter, etc. will be modified because of Covid-19).

2. Sites and transmitters (32B)

At this time, Three has enabled LTE on the 2100MHz band on [REDACTED] sites. We have also enabled 700MHz on [REDACTED] sites. Three would expect to deploy an additional [REDACTED] sites over the period to 1st July 2021.

3. How temporary rights have assisted with the provision of ECS in the state (32C)

The temporary spectrum licence has allowed Three to rapidly increase its network capacity in many of the areas that have experienced increased congestion arising from the changed demands brought about by Covid-19. When the Temporary Licences were first issued, we were able to immediately deliver extra capacity to an important but limited number of sites, and we have been able to continually expand the number of sites that use 700MHz and 2100MHz for 4G data service since.

On the sites where we have deployed 4G on the temporary licensed spectrum it carries on average [REDACTED] of the traffic. This has had the immediate effect of relieving congestion and delivering higher quality of service to end-users. The graph below shows how the introduction of the Temporary spectrum has helped to improve quality of service for those customers that we would regard as being severely impacted by congestion. Use of the Temporary Spectrum brought service improvements to a large number of end-users who might not have been quite so severely impacted.

As can be seen below, in March 2020 when restrictions were first introduced and traffic patterns were changed, there was reduction in overall end-user speed/quality. Even though the overall traffic continued to grow during the year, the Temporary Spectrum Measures allowed us to restore and improve throughput/quality. We conservatively estimate that the use of the Temporary Spectrum Licence on Three's network has significantly increased quality of service to over [REDACTED] users in sub-urban or rural areas. Withdrawal of the Temporary Spectrum Licence would mean a return to reduced quality for customers from Three, but also Virgin Media, Tesco Mobile, and LycaMobile.

[REDACTED section

end confidential section]

When we hit the initial surge in both voice and data traffic we immediately began to make changes to our network to ensure continuity of best service. Measures we could undertake at that time included re-parenting to ensure the distribution of traffic load throughout the network reflects the new profile and increasing core network capacity. Increasing capacity on the access network is a more difficult task as it involves use of new technology, more spectrum, more cells, or more sites. The quickest means to increase capacity in a congested area is to introduce new technology or more spectrum on existing sites.

[REDACTED section

end confidential section]

4. Risks to the provision and quality of existing ECS (32D)

There is a coordination procedure in place between the mobile networks, and also including Virgin Media and other operators where appropriate. Overall, our experience has been that the coordination procedure is working well and there are no significant issues that need to be addressed.

5. Risks in relation to non-renewal (32E)

At this time we are witnessing what we would consider to be abnormal traffic demand on our network. There is a layer of traffic demand that has resulted from Government restrictions which are designed to prevent the spread of Covid-19 and the location of this demand is not consistent with our normal geographic profile. In March last year when we witnessed the surge from the first measures, there was a deterioration in quality of service for some customers, but there was also new demand when some citizens tried to work from home for the first time. We have been able to bring working connectivity to some customers for the first time using the temporary spectrum, but to also quickly introduce capacity to meet new demand. If the temporary licences are not extended, we estimate that this would materially affect connectivity for approximately [§<Confidential] users. This would bring the risk that many of those customers would no longer be able to work from home or connect to school in compliance with public health guidance. It should also be recognised that most children and teenagers have been restricting their movement. This has been helped by their ability to connect with friends using mobile devices, and a significant amount of that traffic has been carried on the spectrum in the temporary licences.

6. Actions required in relation to non-renewal (32F)

If the licences are not renewed, we there would be an immediate reduction in capacity, causing some currently well performing cells to become congested and others to suffer reduced quality. There are no quick remedies to this congestion as existing sites are already optimised for normal traffic patterns. In some cases it might be feasible to build new sites but this is generally a slow and expensive process and is not feasible in the short term or for short-lived traffic demand. If the licences are not extended Three would be required to again re-focus its effort away from its 5G service roll-out to try to mitigate network issues where that is possible. This would have a negative impact overall on the development of 5G service in Ireland.

Virgin Media

To: Conor Berkeley
Subject: RE: Temporary Spectrum Measures - 700 MHz Procedure

From: Adrienne Costello [REDACTED]
Sent: 01 March 2021 15:08
To: Conor Berkeley [REDACTED]
Subject: RE: [Confidential] Temporary Spectrum Measures - 700 MHz Procedure

Hi Conor

Thanks for your email.

The agreement still works well and we haven't had any major issues. If the temporary licencing arrangements are to continue it would be good if this agreement remained in place.

Any questions let me know.
Thanks again.

Kind regards,

Adrienne Costello
Regulatory Affairs Manager
Virgin Media | Macken House, 39/40 Mayor Street Upper, Dublin 1, D01 C9W8
Mob: [REDACTED]

From: Conor Berkeley [REDACTED]
Sent: 25 February 2021 15:33
To: Adrienne Costello [REDACTED]
Subject: [Confidential] Temporary Spectrum Measures - 700 MHz Procedure

Hi Adrienne,

I hope you are well, I am contacting you once again in relation to ComReg's Temporary Spectrum Measures and in particular the agreement between Virgin Media, the mobile operators and 2RN outlining a 700 MHz procedure in relation to the rollout of MFCN in the 700 MHz band on a temporary basis during the COVID-19 pandemic.

In an email on 10 September 2020 you indicated that this agreement has worked well and that should the temporary measures be extended that you would like this arrangement to continue.

In Document 21/05 (21 January 2021), ComReg provided an update to the current COVID-19 Temporary Spectrum Measures and outlined next steps in providing further measures if required due to the ongoing pandemic.

In this regard, could you please confirm by return email that the current agreement in place in relation to the coordination procedure for the 700 MHz band for the Temporary Spectrum Measures remains suitable and appropriate from Virgin Media's point of view should any further temporary measures in the 700 MHz band be implemented by ComReg?

If you require any further information please do not hesitate to contact me,

I look forward to hearing from you,

Kind regards,
Conor

Conor Berkeley

Bainisteoir, Comhoiriúnacht & Forbairt Speictrim
Manager, Spectrum Compatibility & Development

An Coimisiún um Rialáil Cumarsáide

Commission for Communications Regulation

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Teil | Tel [REDACTED]

Rphost | Email [REDACTED]

Suíomh | Website www.comreg.ie



Vodafone Ireland Limited



11 February 2021

Confidential

By Email: jeremy.godfrey@comreg.ie

Cc: garrett.blaney@comreg.ie; robert.mourik@comreg.ie

Jeremy Godfrey
Commissioner
Commission for Communications Regulation,
1 Dockland Central,
Guild Street,
Dublin 1,
D01 E4X0

Dear Jeremy,

Extension of Temporary Spectrum Assignments (Covid-19)

This common letter is sent from the CEOs of Ireland's three mobile network operators and is a follow-up to the previous letters from March and September last year requesting ComReg to assign spectrum to the mobile networks on a temporary basis. ComReg responded positively to those requests by assigning spectrum on a temporary basis and all three network operators have been able to use the resulting temporary licences to the benefit of their customers. In the face of the ongoing exceptional circumstances arising from the Covid-19 pandemic, the purpose of this letter is to request further extension of the temporary licences in accordance with ComReg 21/05.

Introduction

Just like many countries around the world, Ireland has experienced a massive shock. The health measures necessary to prevent spread of Covid-19 have forced us all to change our home life and work life massively. We have been reminded of the importance of modern communications networks and they have played a pivotal role in allowing people to continue work while staying at home but also to maintain vital connectivity for social purposes.

Unfortunately, the pandemic continues to surge globally and in Ireland we are now experiencing the "Third Wave" with recent Covid-19 related daily death rates higher than at any time in 2020. The Level 5 restrictions have been extended until at least March 5th at this time, and it seems likely that these measures will be extended even further. It seems we will need to live with Covid-19 for some time yet while the national vaccination programme is implemented and its efficacy is demonstrated.

Vodafone Ireland Limited

MountainView, Leopardstown, Dublin, D18 XN97, Ireland
T - +353 (0)1 203 7777 W - www.vodafone.ie

Registered Office: MountainView, Leopardstown, Dublin, D18 XN97. Registered in Ireland No. 326967.
Directors: Anne O'Leary (CEO), Liam O'Brien & Brice Evin (France)

Changed Practices

The change to working practice, the move to online education and the change to social interaction that was forced upon us over the last year is likely to have a lasting effect. We have seen an acceleration in the change in ways of working, which would previously have been expected over several years but have now been adopted in a matter of months. Mobile networks have contributed strongly towards supporting this change in the quantity and location of offered traffic by rapidly changing our network build plans supporting the changing traffic patterns, often to support traffic in commuter towns and in rural areas.

In the coming months we continue to face further uncertain changes in traffic patterns. It is hoped that the situation will improve in the coming months such that the Government can reduce some of the restrictions, e.g. pupils will return to school and workplaces will adopt new working models. Supporting customers through this changing demand will only be possible through further investment in networks including mobile networks, particularly in the rural areas that do not currently have sufficient connectivity. It is impossible to predict where local surges will occur, so service providers must prepare on the basis that they could be anywhere.

Spectrum Licensing is Critical

The Temporary Spectrum Licences first issued by ComReg in April have helped in an important way to meet the new demands placed on mobile networks. In mid-March when measures to prevent spread of Covid-19 were announced all mobile operators experienced an immediate and significant growth in average and peak throughput for both voice and data. The physical location of the demand also changed – out of city centres to residential areas.

The rapid enactment of the Temporary Spectrum Measures by ComReg has allowed operators to support this traffic at performance measures similar to those achieved pre-Covid. As new infrastructure cannot be built at short notice, and as operators had already adjusted network configuration to the maximum extent, the Temporary Spectrum Measures have been crucial to giving mobile operators flexibility to mitigate significant congestion in voice and data networks.

As we move forward in the coming months and the next phases of action dealing with Covid, it is important that ComReg should ensure that the current Temporary Spectrum Licences continue past the 7th April date of the current regulation. We ask that these measures are extended at least on the same basis as previously in three monthly periods.

This will enable operators to build capacity in the different locations required and, importantly, to invest efficiently. Building new sites to cope with any short term demand in advance of the 2021 Spectrum auction would be extremely inefficient.

We acknowledge that ComReg has stressed that any temporary licensing framework is intended solely to address the exceptional and extraordinary situation presented by COVID-19 and that it is entirely without prejudice to the award of long-term rights of use in these spectrum bands in its proposed multi-band spectrum award.

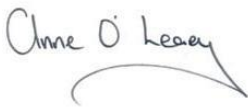
The mobile operators have worked closely with ComReg and Government in supplying ongoing information on network stability and traffic. In using the temporary rights we have also carefully managed the risks to the provision and quality of existing ECS through careful co-ordination with other radio spectrum users and cable companies. We are confident that we can maintain this high level of cooperation through an extended Temporary Licence period.

Noting ComReg's request in document 21/05 for a joint submission from Operators setting out the specific details of the joint/common request, we now wish to jointly request that the terms of the current Temporary Spectrum Management Measures detailed in ComReg 20/88 (D08/20) are extended unchanged.

Each Operator will in addition make a separate submission to Comreg giving the details of their network traffic etc., supplying the information detailed in ComReg 21/05 paragraphs 32 A-G.

We will continue to work closely with ComReg through your ongoing network industry forum and through the supply of any required information. We assure you of our ongoing commitment to supporting the changed economy in Ireland and request that you proceed to consider our application as soon as possible.

Yours sincerely

A handwritten signature in black ink that reads "Anne O'Leary". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

Anne O'Leary
CEO
Vodafone Ireland

Non - Confidential

Vodafone response to ComReg document:

ComReg 21/05 COVID-19: Potential Further Temporary ECS Licensing

[January 2021 update and next steps in considering any further temporary licensing framework](#)

Vodafone have worked with the other operators to produce a joint/common request from our CEOs to ComReg to extend the the Temporary ECS Licensing framework. This request has been sent from our CEO.

In addition, we are supplying the Vodafone specific information below as requested in ComReg 21/05...

27.

A. Network traffic / capacity / performance information

- (i) Available information regarding the traffic (voice and data), capacity and performance of the network considering the temporary and extraordinary situation arising from COVID-19. In particular, the changes in network traffic (voice and data), capacity and performance from pre-COVID-19 until now.

Date	06-Mar-20	26-Nov-20	11-Feb-21	change Mar2020 to Feb 2021	change Nov2020 to Feb 2021
Voice					
3G Voice Traffic [Erl]	██████	██████	██████	████	████
3G Speech Call Setup Failure Rate [%]	████	████	████		
Data					
4G DL Traffic Volume [GB]	██████	██████	██████	████	████
4G UL Traffic Volume [GB]	██████	██████	██████	████	████
4G ERAB Drop Rate [%]	████	████	████		
4G Init ERAB Establishment Success Rate [%]	██████	██████	██████		

The table above shows clearly the very significant increase in traffic experience since March 2020. For example, the 4G downlink traffic has increased by [REDACTED]. This is more than [REDACTED] the increase we planned for pre-Covid.

It is good to note also that the key metrics measuring network capacity and performance have remained stable over the period, indicating that by using these additional Measures effectively we have maintained excellent network quality while coping with this increased demand.

In addition to this overall increase figure there has been a marked movement in traffic from city centre area to suburban and rural areas and to time-of-day traffic patterns in these areas.

- (ii) information on the expected traffic demand and network capacity beyond 1 April 2021.
- (iii) observations on how much of the changes in traffic and capacity is due to forecasted annual changes that would be expected on a network in the normal course (accounting for seasonal changes and projected market developments in the absence of COVID-19) and those that can reasonably be considered to be directly related to Government COVID-19 measures.

We have estimated that over the past year the change in network traffic is approximately double 'normal' growth.

In the table above we have included a comparison of Nov2020 v Feb 2021 traffic. It is interesting to note that data traffic has continued to grow in this period. In other years, traffic [REDACTED] [REDACTED] It is apparent this year that data traffic is continuing to grow in excess of normal patterns.

While it is very difficult to predict how a change in Covid measures might affect future growth we now fully expect traffic growth to considerably exceed the [REDACTED] in our pre Covid plan.

B. Ability to make use of existing temporary spectrum assignments in any further Temporary ECS Licensing framework

- (i) information regarding the number, locations and deployment dates of sites/transmitters and technology (e.g. UMTS, LTE etc...) for each spectrum band that have been used to date using an existing Further Temporary ECS Licence.
- (ii) the number of sites/transmitters for each spectrum band that an MNO would expect to use over the duration of any further Temporary ECS Licensing framework.

See separate spreadsheet.

C. How temporary rights have assisted with the provision of ECS in the State

- (i) how existing temporary rights have assisted in alleviating the network capacity/performance constraints to-date. Please provide available information highlighting trends where the network capacity/network performance improvements are correlated to use of temporary ECS rights of use. For example, when temporary ECS rights of use were brought into use the network / capacity improvements observed at these times.
- (ii) how temporary rights may materially assist over the duration of any further Temporary ECS Licensing framework.

As described in 1 above the Covid emergency has driven demand for added capacity in hundreds of sites where we did not expect to have to build capacity.

The additional spectrum, and liberalisation of 2100MHz band, has enabled us to add this capacity without the addition of new sites. Building new sites in this scale would not have been possible

We now have [REDACTED] sites on-air using 700MHz spectrum and [REDACTED] sites where we are using liberalised 2100MHz to provide LTE data capacity. All of this site would be now experiencing significant congestion without the capacity added by the Temporary Measures.

Covid has also driven changes to our technology plan. We would have expected to [REDACTED], but as many of [REDACTED]

In the period November 2020 to February 2021 Traffic has continued to rise. This is evidence that the measure we have taken to increase capacity have worked and that we are not suppressing traffic through lack of capacity

D. Managing the risks to the provision and quality of existing ECS given the use of the temporary spectrum rights

- (i) information regarding the management of risks to the provision and quality of existing ECS and the measures taken to date by the MNO. For example, the key measures taken on foot of Annex 4 of Document 20/27 - 700 MHz Coordination procedures.

In bringing our first 700MHz sites on-air, we coordinated closely with cable provider Virgin and DTT provider RTE to ensure that we did not affect existing services. Regular communication has continued with these operators and the other MNOs to ensure no interference with one another's services.

Separately the additional network capacity released to mobile operators by these measures has also facilitated the leasing of 3.5GHz spectrum to Fixed Wireless operators, improving the services they can provide.

- E. The risk of congestion and other disruption to consumer services and the locations where it would most likely arise in the event of no further Temporary ECS Licensing framework, identifying if such congestion or disruption would reasonably be considered to be due to COVID-19 matters or mobile market developments / commercial strategy matters.

If the Temporary measures are not renewed the capacity of many of our most busy network sites would be reduced significantly. Our customers would unfortunately experience extensive congestion, [REDACTED]

The locations where this would occur are spread nationwide in suburban area, towns, and in rural areas.

- F. Details of the preparations and actions that the MNOs has taken and would need to take in the event of no further Temporary ECS Licensing framework

[REDACTED]. We expect that as a result of that auction we will be able to add significant capacity to existing sites using new spectrum. If the temporary measures are not extended the only alternative way to increase capacity would be to add new radio sites. Given the short time between now and the planned auction it would not be economic or practical to add sufficient sites if these temporary measures are not renewed.

- G. Any other factors that the MNOs deem relevant to the consideration of any further Temporary ECS Licensing framework

Annex: 4 Draft licensing regulations

STATUTORY INSTRUMENTS

S.I. No. _____ of 2021

Wireless Telegraphy (Second Further Temporary Electronic Communications Services
Licences)
Regulations 2021

Wireless Telegraphy (Second Further Temporary Electronic Communications Services Licences) Regulations 2021

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 the Environment, Climate and Communications in accordance with section 37 of the Communications Regulation Act 2002 (No. 20 of 2002), (as adapted by the Communications, Climate Action and Environment (Alteration of Name of Department and Title of Minister) Order 2020 (S.I. No. 373 of 2020)) hereby makes the following Regulations:

Citation

1. These Regulations may be cited as the Wireless Telegraphy (Second Further Temporary Electronic Communications Services Licences) Regulations 2021.

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, as amended by European Commission Implementing Decision (EU) 2020/636 of 8 May 2020.;

“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, as amended by European Commission Implementing Decision (EU) 2020/667 of 6 May 2020.;

“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);

“Second Further 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;

“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 Second Further 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;

“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 Second Further 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 connection with 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 properly being 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 1 October 2021.

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, Restriction and Withdrawal

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) The Commission may restrict or withdraw a Licence 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.

DRAFT

SCHEDULE 1

WIRELESS TELEGRAPHY ACT, 1926

WIRELESS TELEGRAPHY (SECOND FURTHER TEMPORARY ELECTRONIC COMMUNICATIONS SERVICES LICENCES) REGULATIONS 2021

Second Further 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 (Second Further Temporary Electronic Communications Services Licences) Regulations 2021 (S.I. No. of 2021) (“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 (Second Further Temporary Electronic Communications Services Licences) Regulations 2021 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
700 MHz Duplex, 2.1 GHz, 2.6 GHz, as appropriate	Block A, B, C etc.	From ——— MHz to ——— MHz	DD Month YYYY	DD Month YYYY

Part 2

The Apparatus to which this Licence applies

Authorised Band	Equipment Index Reference	Terrestrial System	Equipment Description	Manufacturer	Model
700 MHz Duplex, 2.1 GHz, 2.6 GHz as appropriate					

Part 3

Apparatus Location and Details

Authorised Band	Site Identity	Easting	Northings	Equipment Index Reference	Maximum EIRP/ TRP (dBm/5MHz)
700 MHz Duplex, 2.1 GHz, 2.6 GHz as appropriate					

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, the Commission 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);

“Active Antenna Systems” or “AAS” means a Base Station and an antenna system where the amplitude and/or phase between antenna elements is continually adjusted resulting in an antenna pattern that varies in response to short term changes in the radio environment. This excludes long-term beam shaping such as fixed electrical down tilt. In AAS Base Stations the antenna system is integrated as part of the Base Station system or product;

“Non-Active Antenna Systems” or “non-AAS” means a Base Station and an antenna system that provides one or more antenna connectors, which are connected to one or more separately designed passive antenna elements to radiate radio waves. The amplitude and phase of the signals to the antenna elements is not continually adjusted in response to short term changes in the radio environment;

“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 or 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;

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

“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;

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

“TRP” (total radiated power) is a measure of how much power the antenna actually radiates and is defined as the integral of the power transmitted in different directions over the entire radiation sphere;

“Terminal Station” means mobile user equipment and fixed customer premise equipment which communicates with a Base Station using spectrum in the 700 MHz Duplex, 2.1 GHz Band or 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 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 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 of the Annex of 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.

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

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.(1) The 2.1 GHz Band

- (a) Only terrestrial systems compatible with the Decision of 2012 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 MoU³ 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:
 - i. an EIRP of 64 dBm/5 MHz per antenna for non-AAS; and
 - ii. a TRP limit of 57 dBm/5MHz per cell for AAS.
- (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 Section C 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 dBm for Terminal Stations shall apply⁴.

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

⁴ 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.

4. (1) The 2.6 GHz Band

- (a) Only terrestrial systems compatible with the Decision of 2008 can be worked and used in the 2.6 GHz Band.
- (b) Within the 2.6 GHz Band FDD Generic Frequency 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 modes of operation permitted in accordance with the Decision of 2008 are:
 - i. TDD;
 - ii. Base Station transmission only; and
 - iii. Terminal Station transmission only.
- (d) To achieve coexistence of adjacent FDD and TDD networks:
 - a. the 2.6 GHz Band TDD Fixed Frequency Block (Lower) is a restricted spectrum block as described in the Annex of the Decision of 2008; and
 - b. the 2.6 GHz Band TDD Fixed Frequency Block (Upper) may be utilised in accordance with the Decision of 2008 noting that it may suffer an increased risk of interference due to the emissions from the FDD downlink.
- (e) Licensees assigned 2.6 GHz Band TDD Blocks shall comply with the Inter-Licensee Synchronisation Procedure set out in Section 3 of this Licence.
- (f) The Licensee shall comply with all MoU⁵ 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 2.6 GHz Band.

Base Stations

- (g) Within any 2.6 GHz Band FDD Generic Frequency Blocks, any 2.6 GHz Band TDD Generic Frequency Blocks, and the 2.6 GHz Band TDD Fixed Frequency

⁵ [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

Block (Upper)⁶ assigned to a Licensee, the in-block radiated power from a Base Station transmitter must not exceed an upper limit of:

- i. 68 dBm/5 MHz per antenna for Non-AAS; and
 - ii. 60 dBm/5 MHz per cell for AAS.
- (h) Within the 2.6 GHz Band TDD Fixed Frequency Block (Lower), assigned to a Licensee, the in-block radiated power from a Base Station transmitter in the downlink direction must not exceed a mean in-block power of:
- iii. 25 dBm/5 MHz EIRP per antenna for Non-AAS; and
 - iv. 22 dBm/5 MHz TRP limit per cell for AAS.
- (i) Outside of any 2.6 GHz Band FDD Generic Frequency Blocks assigned to the Licensee, the Licensee shall comply with the out-of-block BEM which is built up by combining Tables 2, 3 and 4 of Section C of the Annex of the Decision of 2008, in such a way that the limit for each frequency is given by the higher value out of the baseline and the in-block power limits.
- (j) Outside of the 2.6 GHz Band TDD Fixed Frequency Block (Lower), any 2.6 GHz Band TDD Generic Frequency Blocks and the 2.6 GHz Band TDD Fixed Frequency Block (Upper) assigned to a Licensee, the Licensee shall comply with the Inter Licensee Synchronisation procedure set out in Section 3.
- (k) Outside of the 2.6 GHz Band TDD Fixed Frequency Block (Lower) and where Base Station antennas are placed indoors, the BEM for Non-AAS may be in line with Table 6 of Section C of the Annex of the Decision of 2008, provided that at geographical borders to other Member States, Table 3 of Section C of the Annex of the Decision of 2008 applies and that Table 5 of Section C of the Annex of the Decision of 2008 remains valid nationwide.
- (l) 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 (Commission Document 19/124c)⁸; and

⁶ The 2.6 GHz Band TDD Fixed Frequency Block (Upper), which is immediately adjacent to the FDD downlink, may suffer an increased risk of interference due to the emissions from the FDD downlink.

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

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

- ii. complying with the relevant Power Flux Density (pfd) limits with respect to:
 - I. the STAR2000 radars with locations as set out in Chapter 3 of Commission 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 Commission 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.

(m) For deployments in compliance with condition (l) 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.

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

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

Terminal Stations

(n) The maximum mean in-block power (including Automatic Transmitter Power Control range) of:

- i. 35 dBm/5 MHz EIRP; and
- ii. 31 dBm/5 MHz TRP,

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.

Definitions

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

“Default Frame Structure” means the frame structure as detailed in detailed in 3(1) below;

“Indoor Small Cell” means either a Non-AAS Base Station with an EIRP of less than or equal to 24 dBm per 20 MHz carrier or an AAS Base Station with a TRP of less than or equal to 16 dBm per 20 MHz carrier that is located indoors either within a residential or non-residential property;

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

“Restrictive BEM” means, for Licensees utilising the Other Frame Structure (or failing to synchronise with adjacent channel networks for any other reason):

for any 2.6 GHz Band TDD Blocks assigned to a Licensee, a restrictive BEM is given by combining Table 3 and either Table 2¹² or Table 5¹³ as appropriate in Section C of the Annex of the Decision of 2008, in such a way that the limit for each frequency is given by the higher value out of the baseline and the in-block power limits applies;

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.

¹² For 2.6 GHz Band TDD Generic Frequency Blocks and the 2.6 GHz Band TDD Fixed Frequency Block (Upper)

¹³ For the case of 2.6 GHz Band TDD Fixed Frequency Block (Lower)

“Unrestrictive BEM” means Operators utilising the Default Frame Structure on their network (and having a common reference phase clock with adjacent channel operators¹⁴):

for any 2.6 GHz Band TDD Blocks assigned to a Licensee, a BEM given by combining Table 2¹² or Table 5¹³ as appropriate, Tables 3 and 4 of Section C. of the Annex of the Decision of 2008, in such a way that the limit for each frequency is given by the higher value out of the baseline and the in-block power limits applies ;

Introduction

2. (1) Licensees assigned 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 Table 1. Indicated timeslots (or subframes) must not be allocated to anything other than Downlink (D) and Uplink (U) 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

¹⁴ Each operator needs to ensure the start of frame is aligned with adjacent channel operators above and below its assignment

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

Table 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 for indoor domestic and other indoor locations are permitted to operate under the Unrestrictive BEM 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 the Environment, Climate and Communications	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 2021

For and on behalf of the Commission for Communications Regulation

The Minister for the Environment, Climate and Communications, in accordance with section 37 of the Communications Regulation Act, 2002, (as adapted by the Communications, Climate Action and Environment (Alteration of Name of Department and Title of Minister) Order 2020 (S.I. No. 373 of 2020)) consents to the making of the foregoing Regulations.

Signed day of 2021

Eamon Ryan

Minister for the Environment, Climate and Communications

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 the second further 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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