



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

# Spectrum Lease Determination

Lease of spectrum rights in the 3.6 GHz band from Dense Air Ireland Limited and Vodafone Ireland Limited to Eircom Limited

**Reference:** ComReg 23/23

**Date:** 10/03/2023

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# 1 Introduction and background

- 1.1 The procedures and guidelines for transfers and leases of spectrum rights of use for electronic communications services (“ECS”) in the 700 MHz<sup>1</sup>, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2.6 GHz and 3.6 GHz bands in Ireland are set out in Commission for Communications Regulation (“ComReg”) Document 14/11R.<sup>2</sup>
- 1.2 On 19 January and 1 February 2023, Eircom Limited (“Eir”) submitted to ComReg two separate notifications to lease spectrum rights in the 3.6 GHz Band; firstly, from Dense Air Limited (“Dense Air”) (“Proposed Dense Air Lease”) and, secondly, from Vodafone Ireland Limited (“Vodafone”) (“Proposed Vodafone Lease”) (collectively the “Proposed Leases”). ComReg published an information notice regarding the Proposed Leases on 2 February (Document 23/10<sup>3</sup>) which set out:
- relevant technical details of the lease notifications and other relevant material; and
  - the process by which interested parties could make submissions on the Proposed Leases and next steps.
- 1.3 ComReg does not repeat this background information and refers interested parties to Document 23/10.
- 1.4 ComReg did not receive any submissions in response to Document 23/10.
- 1.5 This document sets out ComReg’s written determination, having regard to the procedures and guidelines set out in Document 14/11R in particular.

## 1.1 Background – key aspects of framework for spectrum leases in Ireland

- 1.6 In October 2017, ComReg published its response (“Document 17/82”)<sup>1</sup> to the public consultation (“Document 17/47”)<sup>2</sup> on its proposed framework for spectrum leases in Ireland (“Spectrum Lease Framework”). ComReg also updated its spectrum transfer

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<sup>1</sup> Decision (EU) 2017/899 of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union requires EU Member States to allow the transfer or leasing of spectrum rights of use in the 700 MHz (694-790 MHz) band.

<sup>2</sup> ComReg Document 14/11R, ‘*Spectrum Transfer and Lease Framework in Ireland - Procedures and Guidelines, and Notification Form(s)*’, revised 12 October 2017.

<sup>3</sup> ComReg Document 23/10 – “Spectrum Lease Notification Proposed lease of spectrum rights in the 3.6 GHz band from Dense Air Ireland Limited and Vodafone Ireland Limited to Eircom Limited” - published 02 February 2023.

procedures to reflect its decisions on the Spectrum Lease Framework (“Document 14/11R).

- 1.7 While the draft Wireless Telegraphy (Transfer of Spectrum Rights of Use) (Amendment) Regulations have yet to be made, there is no impediment to the Proposed Leases in the 3.6 GHz Band.<sup>4</sup>
- 1.8 In addition to Document 14/11R and S.I. No. 532 of 2016, ComReg would highlight Regulation 19 of the Framework Regulations<sup>5</sup> and Regulation 9(11) of the Authorisation Regulations<sup>6</sup>.
- 1.9 Readers are also referred to Annex 2 of Document 20/122 for a general overview of the legislative framework relevant to ComReg’s spectrum management function.

## 1.2 Background - 3.6 GHz Band, 3.6 GHz Band Award

### 3.6 GHz Band

- 1.10 The 3.6 GHz Band comprises the frequency range 3 400 – 3 800 MHz and, in Ireland, a total of 350 MHz is assigned to licensees for the purposes of providing ECS.<sup>7</sup>
- 1.11 The 3.6 GHz Band is one of the three “Pioneer 5G candidate bands” in Europe<sup>8</sup> and its use is harmonised in Europe by way of European Commission decisions (EU) 2019/235 and 2008/411/EC.<sup>9</sup>
- 1.12 3.6 GHz Band rights of use in Ireland are service- and technology-neutral, and use cases include mobile broadband, fixed wireless broadband and small cells.

### 3.6 GHz Band Award<sup>10</sup>

- 1.13 On 22 May 2017, ComReg announced the results of its 3.6 GHz Band Award

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<sup>4</sup> See, in particular, the Wireless Telegraphy (3.6 GHz Band Licences) Regulations 2016 (S.I. No. 532 of 2016) at <http://www.irishstatutebook.ie/eli/2016/si/532/made/en/print>

<sup>5</sup> European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011).

<sup>6</sup> European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011)

<sup>7</sup> The remainder comprises a 10 MHz guard band (between 3 400-3 410 MHz) and spectrum used by State Services.

<sup>8</sup> [https://rspg-spectrum.eu/wp-content/uploads/2013/05/RPSG16-032-Opinion\\_5G.pdf](https://rspg-spectrum.eu/wp-content/uploads/2013/05/RPSG16-032-Opinion_5G.pdf)

<sup>9</sup> Commission Implementing Decision (EU) 2019/235 of 24 January 2019 on amending Decision 2008/411/EC as regards an update of relevant technical conditions applicable to the 3400-3800 MHz frequency band (notified under document C(2019) 262) (Text with EEA relevance.)

<sup>10</sup> For more information, please see:

<https://www.comreg.ie/industry/radio-spectrum/spectrum-awards/3-6ghz-band-spectrum-award/>

(“Award”) which resulted in five Winning Bidders, across over nine regions (four rural and five urban), together “Regions”) and assigned on a contiguous basis.<sup>11</sup>

- 1.14 The following chapter sets out ComReg’s assessment of the Proposed Leases and determination.

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<sup>11</sup> Full details of the results are set out in Document 17/38 and corresponding Media Release.

## 2 Determination

2.1 This chapter outlines ComReg’s determination and is structured as follows:

1. A brief description of the notifying parties and their spectrum holdings;
2. The Proposed Leases;
3. Eir’s post-lease 3.6 GHz Band spectrum holdings; and
4. Assessment.

### 2.1 The Notifying Parties

#### 2.1.1 Business activities of the notifying parties

2.2 **Eir** is a mobile network operator (“MNO”) with circa 1.3 million mobile subscribers (15% market share by subscriptions)<sup>12</sup>. Eir also provides fixed line broadband services and has circa 437,000 fixed broadband subscribers (27.3% market share by subscriptions)<sup>13</sup>.

2.3 **Dense Air** is a wholesale provider of telecommunications solutions, in particular neutral-host small cells for 4G LTE and 5G networks. Dense Air provides what it refers to as “network as a service” on its own spectrum with optional managed services (including operational and technical support).<sup>14</sup> Dense Air is ultimately a subsidiary of Airspan Networks, a network densification solution provider with more than 1,000 customers in over 100 countries around the world.<sup>15</sup>

2.4 **Vodafone** is a MNO with circa 2.96 million mobile subscribers (34.3% market share by subscriptions)<sup>16</sup>. Vodafone also provides fixed line broadband services and has circa 320,000 fixed broadband subscribers (20% market share by subscriptions)<sup>17</sup>.

#### 2.1.2 Existing overall spectrum holdings of the notifying parties

2.5 The existing spectrum holdings of the notifying parties<sup>18</sup> capable for the provision of

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<sup>12</sup> Including mobile broadband and machine-to-machine subscriptions.

<sup>13</sup> Quarterly Key Data Report, Q3 2022.

<sup>14</sup> For further information, please see <https://denseair.net/our-solution/>

<sup>15</sup> For further information, please <https://www.airspan.com/about-airspan/>

<sup>16</sup> Including mobile broadband and machine-to-machine subscriptions.

<sup>17</sup> Quarterly Key Data Report, Q3 2022.

<sup>18</sup> The figures exclude leases or other temporary rights of use.

public wireless ECS is shown in **Table 1**: Existing spectrum holdings of notifying parties capable for the provision of public wireless ECS

<b>Band</b>	<b>Meteor</b>	<b>Vodafone</b>	<b>Dense Air</b>
700 MHz*	20 MHz	20 MHz	
800 MHz	20 MHz	20 MHz	-
900 MHz	20 MHz	20 MHz	-
<b>Total sub-1 GHz</b>	<b>60 MHz</b>	<b>60 MHz</b>	<b>-</b>
1800 MHz	30 MHz	50 MHz	-
2.1 GHz FDD*	40 MHz	40 MHz	-
2.3 GHz*	60 MHz	-	-
2.6 GHz FDD*	-	70 MHz	-
2.6 GHz TDD*	-	30 MHz	-
3.6 GHz	80 MHz in rural regions and 85 MHz in the cities	85 MHz in rural regions and 105 MHz in the cities	25 MHz in rural regions and 60 MHz in the cities
<b>Total supra-1 GHz</b>	<b>215 MHz</b>	<b>295 MHz</b>	<b>60 MHz</b>
<b>Total</b>	<b>275 MHz</b>	<b>355 MHz</b>	<b>60 MHz</b>

2.6 below.<sup>19</sup>

<sup>19</sup> This excludes any temporary spectrum rights.



**Table 1: Existing spectrum holdings of notifying parties capable for the provision of public wireless ECS**

Band	Meteor	Vodafone	Dense Air
700 MHz*	20 MHz	20 MHz	
800 MHz	20 MHz	20 MHz	-
900 MHz	20 MHz	20 MHz	-
<b>Total sub-1 GHz</b>	<b>60 MHz</b>	<b>60 MHz</b>	<b>-</b>
1800 MHz	30 MHz	50 MHz	-
2.1 GHz FDD*	40 MHz	40 MHz	-
2.3 GHz*	60 MHz	-	-
2.6 GHz FDD*	-	70 MHz	-
2.6 GHz TDD*	-	30 MHz	-
3.6 GHz	80 MHz in rural regions and 85 MHz in the cities	85 MHz in rural regions and 105 MHz in the cities	25 MHz in rural regions and 60 MHz in the cities
<b>Total supra-1 GHz</b>	<b>215 MHz</b>	<b>295 MHz</b>	<b>60 MHz</b>
<b>Total<sup>21</sup></b>	<b>275 MHz</b>	<b>355 MHz</b>	<b>60 MHz</b>

\*Spectrum rights acquired following the completion of the auction stages of MBSA2

## 2.2 The Proposed Leases

2.7 Details of the Proposed Leases are set out in Annex 1 of Document 23/10 and

<sup>20</sup> As outlined in ComReg Document 22/106, on 15 December 2022, the Commission for Communications Regulation (“ComReg”) notified Dense Air Ireland Limited (“Dense Air”) of findings of noncompliance with respect to Regulation 6(1) of the Wireless Telegraphy (3.6 GHz Band Licences) Regulations 2016 (S.I. No. 532 of 2016), in line with 16(3) of the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (“the Authorisation Regulations”). Regulation 16(6) of the Authorisation Regulations provides that if, at the end of the period referred to above, ComReg is of the opinion that an undertaking has not complied with its obligations, ComReg may apply to the High Court for such an order as the Regulator may consider appropriate.

<sup>21</sup> Note that these numbers are the maximum assigned to the licensee in any given region.

readers are referred to same.

2.8 At a high level, the Proposed Leases entail Eir leasing:

- 14 MHz of Dense Air's spectrum (in the frequency range 3410 to 3624 MHz) at one location;
- 14 MHz of Vodafone's spectrum (in the frequency range 3510 MHz to 3524 MHz) at one location.

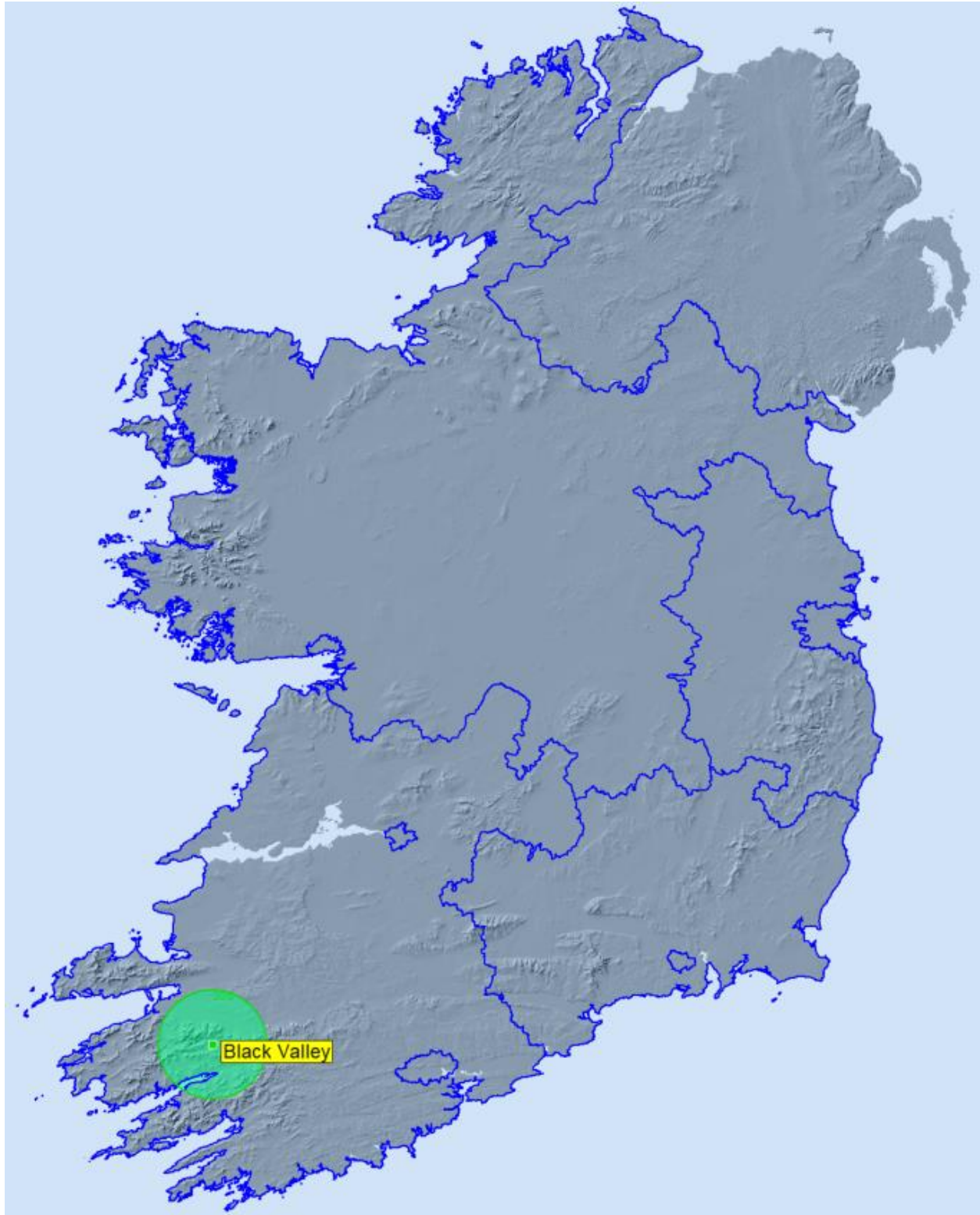
2.9 The Proposed Leases both relate to a single location, which consists of an area of 20 km radius around an existing Eir base station ("Proposed Lease Area" or "PLA"). The PLA covers a geographic area known as the Black Valley in the Macgillycuddy reeks, County Kerry.

2.10 The PLA is shown at **Figure 1** below.

2.11 The Proposed Leases are for a three-month period. Accordingly, the following assessment has been conducted on the basis of the Proposed Leases having a three duration.

2.12 The Proposed Leases do not entail any amendments to the conditions of the 3.6 GHz Band Liberalised Use Licences of Vodafone or Dense Air.

Figure 1: Map of Proposed Lease Area



## 2.3 Eir's 3.6 GHz Band spectrum holdings following the Proposed Leases

2.13 As noted above, the Proposed Leases would increase Eir's 3.6 GHz Band spectrum holdings by 28 MHz in the 1 unique PLA, relative to Eir's holdings absent the Proposed Leases.

## 2.4 Assessment

2.14 By way of background, ComReg recalls that its guidelines for the determination of whether a spectrum transfer or lease would likely distort competition - as set out in Chapter 3 Document 14/11R - are to be interpreted and applied flexibly having regard to the specific circumstances of each case.<sup>22</sup> For example and other things being equal, a transfer or lease with prima facie greater potential to raise competition concerns (such as in terms of quantum of spectrum rights involved, the relative existing spectrum holdings of the notifying and other relevant parties before and following the proposed transfer or lease, and/or the duration of lease etc.), would likely involve a more exhaustive assessment of the matters identified in the guidelines, including a likely corresponding higher burden on the notifying parties in terms of the information required to inform such an assessment.

2.15 In the present matter, ComReg would particularly note the:

- the quite limited duration of the Proposed Leases;
- the relative spectrum holdings of the relevant parties (both pre- and post-lease); and
- the remote geography of the PLA.

2.16 In light of the above context, ComReg outlines out its assessment below.

2.17 **First**, and in the context of market definition, ComReg recalls paragraph 39 of Document 14/11R which states:

*"It is not always necessary to reach a firm conclusion on market definition - for example, where it is clear that the proposed spectrum transfer or lease is not likely to raise competition concerns on any reasonable definition of*

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<sup>22</sup> Paragraph 33 of Document 14/11R.

*the market.”*

2.18 In the present case, it appears sufficient to consider the Proposed Leases in the narrow context of the relative distributions of holdings in the 3.6 GHz Band solely, noting, of course, the potential for other competitive constraints when viewed more broadly, such as in terms of alternative spectrum bands and alternative technologies.

2.19 **Second**, and in that context, ComReg does not consider that the post-lease 3.6 GHz Band spectrum holdings of Eir would be likely to distort competition noting, among other things:

- that Eir presently holds 80 MHz under its LU Licence out of a total of 350 MHz assigned in rural regions in the 3.6 GHz Band (or circa 23%), further noting the service-and technology-neutral licensing of rights in this band;
- that Eir presently holds 215 MHz out of a total of 965 MHz of supra 1 GHz (or circa 22%);
- the very short-term nature of the Proposed Leases; and
- the overall quantum of spectrum Eir would hold under the Proposed Leases is only incrementally larger than that held at present and further, only relates to a single remote location.

2.20 Furthermore, the very short-term nature of the Proposed Leases limits the potential for material competitive distortions to arise because, among other things:

- the Proposed Leases are stated to be for use in providing FWA services to Eir’s pre-existing customers only; and
- the benefits to Eir from the Proposed Leases (i.e. additional capacity and better quality of service) are short-lived, thereby reducing the ability and incentive to seek to increase its prices (or reduce its output) on foot of same without concern as to the reactions of its competitors and/or customers.

2.21 For the reasons outlined above, ComReg considers that the Proposed Leases would not be likely to distort competition and has determined that the Proposed Vodafone Lease and the Proposed Dense Air Lease may be put into effect for a period of three months from 10/03/2023.