



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

# Proposed amendments to technical conditions for the 900 MHz and 1800 MHz bands

## Implementation of EU Decision 2022/173 and repeal of Decision 2009/766/EC

Consultation

**Reference:** ComReg 24/34

**Date:** 08/05/2024

## Legal Disclaimer

This Consultation is not a binding legal document and also does not contain legal, commercial, financial, technical or other advice. The Commission for Communications Regulation is not bound by it, nor does it necessarily set out the Commission's final or definitive position on particular matters. To the extent that there might be any inconsistency between the contents of this document and the due exercise by it of its functions and powers, and the carrying out by it of its duties and the achievement of relevant objectives under law, such contents are without prejudice to the legal position of the Commission for Communications Regulation. Inappropriate reliance ought not therefore to be placed on the contents of this document.

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## Chapter 1

# 1 Introduction

1.1 This document sets out the Commission for Communications Regulation's (ComReg) proposals to amend the technical conditions for the 900 MHz<sup>1</sup> and 1800 MHz<sup>2</sup> bands, as currently set out in:

- Schedule 1 of the Multi-Band Spectrum Award ("MBSA1") Regulations<sup>3</sup>; and
- the MBSA1 Liberalised Use Licences ("MBSA1 Licences") issued to each of Meteor Mobile Communications Ltd. ("Eir"),<sup>4</sup> Hutchison 3G Ireland Ltd. and Three Ireland Hutchison Ltd.<sup>5</sup> (together "Three") and Vodafone Ireland Ltd. ("Vodafone").

1.2 The proposals arise from the European Commission's ('EC') Implementing Decision (EU)2022/173<sup>6</sup> of 7 February 2022 on "*the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing electronic communications services in the Union and repealing Decision 2009/766/EC*" ("**Decision of 2022**") which:

- repealed the previous EC implementing decision for these bands, namely Decision 2009/766/EC<sup>7</sup> ("**Decision of 2009**") as amended by Decision 2011/251/EU<sup>8</sup> ("**Decision of 2011**") and Decision (EU) 2018/637<sup>9</sup>

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<sup>1</sup> The 900 MHz Band means the 880 to 915 MHz band paired with the 925 to 960 MHz band.

<sup>2</sup> The 1800 MHz Band means the 1710 to 1785 MHz band paired with the 1805 to 1880 MHz band.

<sup>3</sup> The Wireless Telegraphy (Liberalised Use and Preparatory Licences in the 800 MHz, 900 MHz and 1800 MHz Bands) Regulations ([S.I. 251 of 2012](#)), available at <https://www.irishstatutebook.ie/>

<sup>4</sup> The name on the MBSA1 Licence originally issued to Meteor Mobile Communications Ltd. was subsequently changed to Eircom Ltd. trading as "eir").

<sup>5</sup> The name on the MBSA1 Licence originally issued to Telefonica Ireland Ltd. (O2) was subsequently changed to Three Ireland (Hutchison) Limited, following the acquisition of O2 by Three in 2014.

<sup>6</sup> [Decision \(EU\)2022/173](#), "*Commission Implementing Decision of 7 February 2022 on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing electronic communications services in the Union and Repealing Decision 2009/766/EC*", available at [www.europa.eu](http://www.europa.eu)

<sup>7</sup> [Decision 2009/766/EC](#), "*Commission Decision of 16 October 2009 on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community*", available at <https://eur-lex.europa.eu/>

<sup>8</sup> [Decision 2011/251/EU](#), "*Commission Implementing Decision of 18 April 2011 amending Decision 2009/766/EC on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community*", available at <https://eur-lex.europa.eu/>

<sup>9</sup> [Decision 2018/637/EU](#), "*Commission Implementing Decision (EU) 2018/637 of 20 April 2018 amending Decision 2009/766/EC on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community as regards relevant technical conditions for the Internet of Things*", available at <https://eur-lex.europa.eu/>

(“**Decision of 2018**”), and the harmonised technical conditions set out in those EC implementing decisions; and

- sets out harmonised technical conditions which update the harmonised technical conditions of the previous EC implementing decisions for the 900 MHz and 1800 bands and provides for advancements in digital and communications technologies such as the emergence and integration of 5G and IoT technologies, and the use of Active Antenna Systems (“AAS”).<sup>10</sup>

## Structure of this document

1.3 This consultation is structured as follows:

- Chapter 2 sets out background information on the existing MBSA1 technical conditions for the 900 MHz and 1800 MHz bands and an overview of the Decisions of 2009, 2011, 2018 and 2022;
- Chapter 3 discusses the proposed amendments arising from the Decision of 2022. The Proposed Amendments are then set out in draft form in:
  - a draft MBSA1 Licence showing the amended technical conditions for the 900 MHz and 1800 MHz Band (see Annex 1); and
  - draft amending regulations (see Annex 2); and
- Chapter 4 provides details on next steps.

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<sup>10</sup> Active Antenna System (AAS) is a technology that uses electronically steerable antennas to improve network coverage and capacity.

## Chapter 2

# 2 Background Information

## 2.1 Existing technical conditions for the 900 MHz and 1800 MHz band

- 2.1 In November 2012, ComReg announced the results of the MBSA1<sup>11</sup> and shortly thereafter issued a MBSA1 Licence to each of the winning bidders (the “MBSA1 Licensees”). All of the MBSA1 Licences commenced on 1 February 2013 and, among other things, these licences set out the spectrum rights of use licensed to each MBSA1 Licensee and their respective licence conditions. All four MBSA1 licences will expire on 12 July 2030.
- 2.2 The spectrum rights of each MBSA1 Licensee in the 900 MHz Band and the 1800 MHz band are detailed in Figure 1 below.

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<sup>11</sup> See below ComReg Documents relating to MBSA1, available at [www.comreg.ie](http://www.comreg.ie):

- ComReg Document [12/131](#), “*Frequency Arrangements and Results of the Multi-Band Spectrum Award Process*”, published 5 December 2012; and
- ComReg Document [12/123](#), “*Information Notice - Results of the Multi-Band Spectrum Auction*”, published 15 November 2012 December 2022.

MBSA1 Licensee	Licence Commencement & Expiry	Quantum of Spectrum in Band	Spectrum Assignment	Licence Number
<b>Meteor Mobile Communications</b>	01 Feb 2013 to 12 July 2030	<b>800 MHz:</b> 2 x 10 MHz  <b>900 MHz:</b> 2 x 10 MHz  <b>1800 MHz:</b> 2 x 15 MHz	<b>800 MHz:</b> 832–842 / 791–801 MHz  <b>900 MHz:</b> 880–890 / 925-935 MHz  <b>1800 MHz:</b> 1770-1785/1865-1880 MHz	MLU1005
<b>Three Ireland (Hutchison) Limited</b>	01 Feb 2013 to 12 July 2030	<b>800 MHz:</b> 2 x 10 MHz  <b>900 MHz:</b> 2 x 15 MHz  <b>1800 MHz:</b> 2 x 35 MHz	<b>800 MHz:</b> 842-852 / 801-811 MHz  <b>900 MHz:</b> 890-900 / 935-945 MHz & 910-915 / 955-960 MHz  <b>1800 MHz:</b> 1710-1725 / 1805-1820 MHz & 1750-1770/1845-1865 MHz	MLU1006  MLU1008
<b>Vodafone Ireland Limited</b>	01 Feb 2013 to 12 July 2030	<b>800 MHz:</b> 2 x 10 MHz  <b>900 MHz:</b> 2 x 10 MHz  <b>1800 MHz:</b> 2 x 25 MHz	<b>800 MHz:</b> 852-862 / 811-821 MHz  <b>900 MHz:</b> 900-910 / 945-955 MHz  <b>1800 MHz:</b> 1725-1750 / 1820-1845 MHz	MLU1007

**Figure 1: Licences in Ireland in the 900 and 1800 MHz band**

2.3 The MBSA1 Licences and the MBSA1 Regulations contain technical conditions for the 900 MHz and 1800 MHz Bands based on the Decision of 2009, as amended by the Decision of 2011, which was the current decision at the time of MBSA1.

2.4 The technical conditions are set out in Part 4 “Licence Conditions” of the MBSA1 Licences.

## 2.2 European Commission implementing decisions on the harmonisation of the 900 MHz and 1800 MHz bands

2.5 In 2009, EC Decision 2009/766/EC set out the harmonised technical conditions for the 900 MHz and 1800 MHz bands. This allowed for the introduction of new technologies at that time such as Universal Mobile Telecommunications Systems (“UMTS”) (3G) alongside existing Global System for Mobile Communications (“GSM”) (2G) networks.

2.6 In 2011, EC Decision 2011/251/EU amended Decision 2009/766/EC setting out



amended harmonised technical conditions that took account of the significant technological changes that had emerged at that time. The amendment was driven by the development and increasing market demand for advanced mobile communications such as Long-Term Evolution (“LTE”) 4G and Worldwide Interoperability for Microwave Access<sup>12</sup> (“WiMAX”) which was not provided for in the Decision of 2009.

- 2.7 In 2018, EC Decision (EU)2018/637 further amended Decision 2009/766/EC setting out amended harmonised technical conditions to provide for a number of internet of Things (“IoT”) technologies, being Extended Coverage GSM-IoT (EC-GSM-IoT), LTE Machine Type Communications (LTE-MTC), LTE evolved Machine Type Communications (LTE-eMTC) and Narrowband IoT (NB-IoT).
- 2.8 In 2022, EC Decision (EU)2022/173 repealed the Decision of 2009 and set out amended harmonised technical conditions to provide for advancements in digital and communications technologies such as the emergence and integration of 5G and IoT technologies, and the use of Active Antenna Systems (“AAS”).
- 2.9 Article 3 of the Decision of 2022 requires Member States to take the following actions within 30 months from the adoption date of 7 February 2022 (i.e. by 7 August 2024).

*“Article 3*

*1. The terrestrial systems capable of providing electronic communications services that can coexist with GSM systems in the 900 MHz band within the meaning of Article 1(1) of Directive 87/372/EEC<sup>13</sup> shall comply with the parameters set out in the Annex within 30 months from the adoption of this Decision. (emphasis added)*

*2. Member States shall designate and make available, within 30 months from the adoption of this Decision, on a non-exclusive basis, the 1 800 MHz frequency band for: (emphasis added)*

*(a) GSM systems; and*

*(b) terrestrial systems capable of providing electronic communications services, in compliance with the parameters set out in the Annex.”*

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<sup>12</sup> WiMAX, the Worldwide Interoperability for Microwave Access, is a telecommunications technology aimed at providing wireless data over long distances in a variety of ways, from point-to-point links to full mobile cellular type access. It is the final leg of delivering wireless broadband connectivity from a communications provider to a customer and an alternative to cable and DSL. It is based on a on Broadband Wireless Access standard of the Institute of Electrical and Electronics Engineers (IEEE 802.16). WiMAX and Wi-Fi are complementary. While WiMAX is a broadband connection to the Internet at service quality, Wi-Fi is a wireless local area network

<sup>13</sup> [Directive \(EU\) 2018/1972](https://eur-lex.europa.eu) of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (OJ L 321, 17.12.2018, p. 36), available at <https://eur-lex.europa.eu>.

- 2.10 In addition, Article 7 of the Decision of 2022 provided that the technical conditions of Decision of 2009 would remain applicable for 30 months from the adoption of the Decision of 2022:

*“Article 7*

***Decision 2009/766/EC is hereby repealed. Its Article 5 and its Annex shall remain applicable for 30 months from the adoption of this Decision.”***  
*(emphasis added)*

- 2.11 This consultation sets out ComReg’s proposals for the implementation of the Decision of 2022.

## Chapter 3

# 3 Proposed amendments to implement (EU) Decision 2022/173

3.1 By way of background, any implementation of the Decision of 2022 to permit the use of terrestrial systems referred to in the Decision of 2022 and for the deployment of AAS base stations in the 1800 MHz band would require amendments to the relevant technical conditions set out in the MBSA1 Licences and the MBSA1 Regulations, in accordance with Regulation 14 of the European Union (Electronic Communications Code) Regulations<sup>14</sup>. Regulation 14 relevantly provides:

*“14. (1) The Regulator may amend the rights, conditions and procedures concerning the general authorisation, rights of use for radio spectrum or rights of use for numbering resources provided that any such amendment may only be made in objectively justified cases and in a proportionate manner, taking into consideration, where appropriate, the specific conditions applicable to transferable rights of use for radio spectrum or for numbering resources. The Regulator shall notify the holder of the authorisation or the rights of use of any decision to make the amendment.*

...

*(4) Except where the proposed amendments are minor in nature and have been agreed with the holder of a general authorisation, a right of use for radio spectrum, a right of use for numbering resources, a consent referred to in paragraph (2) or a licence referred to in paragraph (3), before making any amendment under this Regulation, the Regulator, the NRA, a road authority or a local authority, as the case may be, shall —*

*(a) give notice, in such manner as it considers appropriate, of its intention to make the amendment and invite interested parties, including users and consumers, to make representations on the proposed amendment within such period as may be specified in the notice but not being, except in exceptional circumstances, less than 28 days from the date of the notice, and*

*(b) have regard to any representations made to it under subparagraph (a).*

*(5) Amendments made in accordance with this Regulation shall be published*

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<sup>14</sup> The European Union (Electronic Communications Code) Regulations 2022 ([S.I. No. 444 of 2022](https://www.irishstatutebook.ie/)), available at <https://www.irishstatutebook.ie/>

*by the Regulator, the NRA, a road authority or a local authority as appropriate, together with the reasons therefor.”*

3.2 For terrestrial systems other than GSM, the Decision of 2022 sets out the technical parameters for base stations in the form of a Block Edge Mask (“BEM”). The BEM is applicable to non-AAS<sup>15</sup> base stations in the 900 MHz Band and to both non-AAS and AAS<sup>16</sup> base stations in the 1800 MHz Band. The BEM comprises of a number of elements including in-block power limits and out-of-block power limits:

- (a) In-block power limits (see Section 4 of the Annex to the Decision of 2022); and
- (b) Out-of-block power limits consisting of:
  - (i) the baseline (see Table 3 of Decision of 2022);
  - (ii) the transitional region (see Table 4 of Decision of 2022); and
  - (iii) additional baseline (see Table 5 of the Decision of 2022).

## 3.2 In-Block Power Limits – Non-AAS and AAS base stations

3.3 Table 2 of the Decision of 2022 describes in-block power limits for non-AAS and AAS base stations. In relation to in-block power limits, ComReg notes that:

- an in-block power limit for non-AAS base stations is not obligatory for spectrum blocks in the 880 – 915 MHz paired with the 925 - 960 MHz frequency range (“900 MHz Band”) and 1710 – 1785 MHz paired with the 1805 – 1880 MHz frequency range (“1800 MHz Band”); and
- an in-block power limit for AAS base stations is not obligatory for spectrum blocks in the 1800 MHz Band.

3.4 In both cases, while the upper in-block power limit is not obligatory, the Decision of 2022 identifies that if a level is required by a Member State, a limit may be applied. In the case of non-AAS, Equivalent Isotropically Radiated Power (“EIRP”) limits are provided and in the case of AAS, a Total Radiated Power (“TRP”) limit is identified.

3.5 In relation to spectrum in the 900 MHz Band and 1800 MHz Band, and noting that ComReg has set an in-block power limit for non-AAS and AAS base stations in the

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<sup>15</sup> 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.

<sup>16</sup> 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.

most recently issued licences for Mobile and Wireless Broadband services (see MBSA2 Licences<sup>17</sup> and 3.6 Licences<sup>18</sup>), ComReg proposes to set an in-block power limit for both the:

- non-AAS base stations in the 900 MHz and 1800 MHz Bands; and
- AAS base stations in the 1800 MHz Band.

3.6 Regarding the level of the in-block power limit for non-AAS Base Stations in the 900 MHz and 1800 MHz bands, ComReg proposes to set this at 67 dBm / (5 MHz) per antenna for broadband systems and 69 dBm / (200 kHz) per antenna for narrowband systems given that this is the maximum limit set out in Decision of 2022.

3.7 In relation to the 1800 MHz Band, ComReg proposes to set an in-block power limit for AAS base stations of 58 dBm / (5 MHz) per cell<sup>19</sup> given that this is the maximum limit set out in Decision of 2022.

### 3.3 Out of Block Power Limits – Non-AAS and AAS Base Stations for the 900 MHz and 1800 MHz bands

3.8 The out-of-block power limits for AAS base stations and non-AAS base stations are non-discretionary and are made up by combining elements in Tables 3, 4 and 5 of the Decision of 2022.<sup>20</sup>

3.9 ComReg proposes to implement these technical parameters as set out the Decision of 2022.

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<sup>17</sup> Multi Band Spectrum Award 2022 (“MBSA2”) in the 700 MHz, 2.1 GHz, 2.3 GHz and 2.6 GHz bands.

See below ComReg Documents relating to the MBSA2 available at [www.comreg.ie](http://www.comreg.ie);

- ComReg Document [23/06](#), “Multi Band Spectrum Award– Final Assignment Plan”, published 12 January 2023;
- ComReg Document [22/112](#), “Multi Band Spectrum Award– Completion of Assignment Round determining the Provisional Assignment Plan and start of Negotiation Phase”, published 19 December 2022, and
- ComReg Document [22/105](#), “Multi Band Spectrum Award – Results of the Main Stage”, published 14 December 2022.

<sup>18</sup> See below ComReg Documents relating to the 3.6 GHz band award available at [www.comreg.ie](http://www.comreg.ie);

- ComReg Document [16/71](#), “3.6 GHz Band Spectrum Award – Information Memorandum”, published 29 August 2016; and
- ComReg Document [15/70](#), “Consultation on Proposed 3.6 GHz Band Spectrum Award”, published 10 July 2015.

<sup>19</sup> In a multi-sector base station, the radiated power limit applies to each of the individual sectors.

<sup>20</sup> See Annex of the Decision of 2022, Section 4 “Technical conditions for base stations – block edge mask”.

### 3.4 Terminal equipment

- 3.10 The maximum mean in-block power limit of 25 dBm<sup>21</sup> for Terminal Stations shall apply as set out in table 6 of the Decision of 2022.<sup>22</sup>

### 3.5 Proposed amendments to MBSA1 Licences and MBSA1 Regulations

- 3.11 In light of the above, and in accordance with Regulation 14 of the European Union (Electronic Communications Code) Regulations, ComReg particularly refers interested parties to the following:
- Annex 1 – which sets out the draft technical conditions for the 900 MHz and 1800 MHz bands that are proposed to be included by way of an amendment to the MBSA1 Licences; and
  - Annex 2 – which sets out the draft amending regulations that are proposed to be made by ComReg (subject to the consent of the Minister of the Environment, Climate and Communications).

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<sup>21</sup> 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. A tolerance of up to + 2 dB has been included in this limit, to reflect operation under extreme environmental conditions and production spread.

<sup>22</sup> See Annex of Decision of 2022, Section 4 “Technical conditions for base stations – block edge mask”.

## Chapter 4

# 4 Submitting comments and next steps

## 4.1 Submitting Comments

- 4.1 All input and comments are welcome. Please reference comments to the relevant section / paragraph number in each chapter and annex or appendix in this document, as this will assist the task of analysing responses and ensuring that all relevant views are taken into account. Please also provide reasoning and supporting information for any views expressed.
- 4.2 ComReg invites views from interested parties on all aspects of the Consultation over the next 30 days.
- 4.3 The 30-day period for comment will run until **17:00 on 7 June 2024**, during which time ComReg welcomes submissions in written form (e-mail) to the following recipient, clearly marked - Submissions to ComReg 24/34:
- Mr. Martin O'Donoghue
  - Email: [marketframeworkconsult@comreg.ie](mailto:marketframeworkconsult@comreg.ie)
- 4.4 Electronic submissions should be submitted in an unprotected format so that they may be readily included in the submissions received document for electronic publication.
- 4.5 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 notice, 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)<sup>23</sup>.
- 4.6 In this regard, respondents should submit views in accordance with the instructions set out below. When submitting a response to this notification that contains confidential information, respondents must choose one of the following options:
- 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 any particular material is considered to be confidential. The separate non-confidential version must have actually redacted

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<sup>23</sup> Response to Consultation - Guidelines on the treatment of confidential information – ComReg Document 05/24: [https://www.comreg.ie/media/dlm\\_uploads/2015/12/ComReg0524.pdf](https://www.comreg.ie/media/dlm_uploads/2015/12/ComReg0524.pdf)

all items that were marked and highlighted in the confidential version.

OR

- B. Submit only a confidential version including the reasons as to why any particular material is considered 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 have 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.

4.7 For ComReg to perform the redactions under Option B, 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); and
- C. A Scissors symbol (Symbol code: Wingdings 2:38) must be included after the first square bracket.

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

## 4.2 Next Steps

4.8 After concluding its review of all submissions received and other relevant material, ComReg intends to publish a response to consultation and final decision on this matter.



# Annex 1: Draft MBSA1 Licence showing the proposed amendments

A 1.1 The proposed amendments to the MBSA1 technical conditions for the 900 MHz and 1800 MHz Band in the MBSA1 Licences are shown below. The proposed additions are in underlined text.

## Part 4

### Licence Conditions

#### 1. General

(1) The Frequency Bands

[...]

(2) The Licensed Spectrum Blocks

[...]

(3) The Terrestrial Systems and Services

[...]

(4) Provision of Maps and Data

[...]

(5)

#### 2. Technical Conditions

(1) The 800 MHz Band

[...]

[...]

[...]

[...]

[...]

(2) The 900 MHz and 1800 MHz bands

(a) The Frequency Division Duplex (FDD) method shall be used.

(b) In the 900 MHz band, radio transmitters that use the 925 to 960 MHz frequency space shall transmit in a downlink direction (i.e. 'Base Station' transmitters). Radio transmitters that use the 880 to 915 MHz frequency space shall transmit in an uplink direction (i.e. 'Terminal' transmitters).

(c) In the 1800 MHz band radio transmitters that use the 1805 to 1880 MHz frequency space shall transmit in a downlink direction (i.e. 'Base Station' transmitters). Radio transmitters that use the 1710 to 1785 MHz frequency space shall transmit in an uplink direction (i.e. 'Terminal' transmitters).

(d) **Only** Terrestrial Systems permitted under ~~Decision 2009/766/EC as amended by Decision 2011/251/EU~~ **the Decision of 2022** can be **worked and used** deployed in the 900 MHz band ~~and/or the 1800 MHz band,~~ **or both.**

(e) In the absence of bilateral or multilateral agreements between neighbouring Licensees, the Licensee deploying a GSM system<sup>24</sup> in the 900 MHz ~~band and/or the~~ 1800 MHz band, **or both**, is required to meet the ~~guard band~~ **frequency separation** obligation as set down in **Section 3 of the Decision of 2022** ~~Decision 2009/766/EC as amended by Decision 2011/251/EU.~~

(f) The Licensee shall comply with all MoU agreed from time to time between the Commission and the Ofcom, or its successor, in relation to the 900 MHz and 1800 MHz band, including ComReg Documents 11/50c, d, e and f.

**(g) Within a 900 MHz Band Block assigned to the Licensee and for terrestrial systems other than GSM systems, the in-block radiated power from a Base Station transmitter in the downlink direction must not exceed:**

- i. **an EIRP of 67 dBm/5 MHz per antenna for non-AAS for a Broadband System;**  
**and**
- ii. **an EIRP of 69 dBm/5 MHz per antenna for non-AAS for a Narrowband System.**

**(h) Outside of the 900 MHz Band Block(s) assigned to the Licensee and for terrestrial systems other than GSM systems, the Licensee shall comply with the out-of-block BEM as specified in Section 4 of the Annex of the Decision of 2022.**

**(i) Within a 1800 MHz Band Block assigned to the Licensee, and for terrestrial systems other than GSM systems, the in-block radiated power from a Base Station transmitter in the downlink direction must not exceed:**

- i. **an EIRP of 67 dBm/5 MHz per antenna for non-AAS for a Broadband System;**
- ii. **an EIRP of 69 dBm/5 MHz per antenna for non-AAS for a Narrowband System;**

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<sup>24</sup> ~~As defined in Decision 2009/766/EC as amended by Decision 2011/251/EU.~~

- and  
iii. a TRP limit of 58 dBm/5MHz per cell<sup>25</sup> for AAS.

(j) Outside of the 1800 MHz Band Block(s) assigned to the Licensee and for terrestrial systems other than GSM systems, the Licensee shall comply with the out-of -block BEM as specified in Section 4 of the Annex of the Decision of 2022.

(k) Within a 900 MHz Band Block assigned to the Licensee , the maximum mean in-block power limit of 25 dBm<sup>26</sup> for Terminal Stations shall apply.

(l) Within a 1800 MHz Band Block assigned to the Licensee , the maximum mean in-block power limit of 25 dBm<sup>27</sup> for Terminal Stations shall apply.

### 3. Roll-out and Coverage Requirements

- (1) The Minimum Coverage and Roll-out Requirement

[...]

- (2) Definition of Coverage

[...]

### 4. Quality of Service (QoS) Obligations

- (1) The Minimum “Availability of the Network” Standard

[...]

- (2) The Minimum “Voice Call” Standard

[...]

- (3) Reporting of Compliance

[...]

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<sup>25</sup> In a multi-sector base station, the AAS radiated power limit applies to each one of the individual sectors.

<sup>26</sup> 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. A tolerance of up to + 2 dB has been included in this limit, to reflect operation under extreme environmental conditions and production spread.

<sup>27</sup> 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. A tolerance of up to + 2 dB has been included in this limit, to reflect operation under extreme environmental conditions and production spread.

## Annex 2: Draft amending regulations

- A 2.1 **Any final version of these regulations, which would be made by ComReg under section 6 of the Wireless Telegraphy Act 1926, is expressly subject to the consent of the Minister for the Environment, Climate and Communications under section 37 of the Communications Regulation Act 2002, as amended.**
- A 2.2 ComReg may make such editorial changes to the text of any final regulations as it considers necessary and without further consultation, where such changes would not affect the substance of the regulations.











- i. *an EIRP of 67 dBm/5 MHz per antenna for non-AAS for a broadband system; and*
- ii. *an EIRP of 69 dBm/5 MHz per antenna for non-AAS for a narrowband system;*

*(h) Outside of the 900 MHz Band Block(s) assigned to the Licensee and for terrestrial systems other than GSM systems, the Licensee shall comply with the out-of-block BEM as specified in Section 4 of the Annex of the Decision of 2022;*

*(i) Within a 1800 MHz Band Block assigned to the Licensee and for terrestrial systems other than GSM systems, the in-block radiated power from a Base Station transmitter in the downlink direction must not exceed:*

- an EIRP of 67 dBm/5 MHz per antenna for non-AAS for a broadband system;*
- an EIRP of 69 dBm/5 MHz per antenna for non-AAS for a narrowband system; and*
- iii. *a TRP limit of 25 dBm/5MHz per cell for AAS;*

*(j) Outside of the 1800 MHz Band Block(s) assigned to the Licensee and for terrestrial systems other than GSM systems, the Licensee shall comply with the out-of-block BEM as specified in Section 4 of the Annex of the Decision of 2022;*

*(k) Within the 900 MHz assigned to the Licensee, the maximum mean in-block power limit of 25 dBm<sup>28</sup> for Terminal Stations shall apply; and*

*(l) Within a 1800 MHz Band Block assigned to the Licensee, the maximum mean in-block power limit of 25 dBm<sup>29</sup> for Terminal Stations shall apply.”.*

6. Section 3 of Part 4 of Schedule 1 to the Principal Regulations (“*Roll-out and Coverage Requirements*”) is amended –

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<sup>28</sup> 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. A tolerance of up to + 2 dB has been included in this limit, to reflect operation under extreme environmental conditions and production spread.

<sup>29</sup> 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. A tolerance of up to + 2 dB has been included in this limit, to reflect operation under extreme environmental conditions and production spread.



