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# **The Wireless Telegraphy (Mobile Repeater) (Exemption) (Amendment) Regulations 2019**

Regulatory Impact Assessment

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# 1. Regulatory Impact Assessment

## Introduction

- 1.1 Ofcom acts in accordance with Government practice that, where a statutory regulation is made, a Regulatory Impact Assessment (“**RIA**”) must be undertaken. We also comply with our duty under section 7 of the Communications Act 2003 (the “**2003 Act**”) which imposes a duty on Ofcom to carry out impact assessments where our decisions would be likely to have a significant effect on businesses or the general public, or when there is a major change in our activities.
- 1.2 The analysis in this document is a regulatory impact assessment relating to the Wireless Telegraphy (Mobile Repeater) (Exemption) (Amendment) Regulations 2019 (the “**Regulations**”), which will amend the Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2018 (the “**Principal Regulations**”). It is consistent with the Government practice on RIAs and Ofcom’s duty under the 2003 Act.
- 1.3 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy making. As a matter of policy, we are committed to carrying out and publishing impact assessments in relation to the vast majority of our policy decisions. For further information about our approach to impact assessments, see the guidelines, [Better policymaking: Ofcom’s approach to impact assessment](#), which are on our website.
- 1.4 This RIA relates to our decision to make the amendment Regulations relating to low gain mobile phone repeaters for in-vehicle use.

## Legislative background

- 1.5 In the UK, Ofcom is responsible for authorising use of the radio spectrum. We permit the use of the radio spectrum either by granting wireless telegraphy licences under the Wireless Telegraphy Act (the “**2006 Act**”) or by making regulations exempting users of particular equipment from the requirement to hold such a licence.
- 1.6 Under section 8(1) of the 2006 Act, it is unlawful (a criminal offence) to establish or use a wireless telegraphy station or install or use wireless telegraphy apparatus without holding a licence granted by us, unless the establishment, installation or use of such equipment is exempted from the need for a licence. We can exempt the deployment of wireless telegraphy stations and apparatus by making statutory regulations under section 8(3) of the 2006 Act. Such exemption may be absolute or subject to such terms, provisions and limitations as may be specified.
- 1.7 Under sections 8(4) and 8(5) of the 2006 Act, we have to make regulations to exempt equipment if its deployment is not likely to:
  - a) involve undue interference with wireless telegraphy;

- b) have an adverse effect on technical quality of service;
  - c) lead to inefficient use of the part of the electromagnetic spectrum available for wireless telegraphy;
  - d) endanger safety of life;
  - e) prejudice the promotion of social, regional or territorial cohesion; or
  - f) prejudice the promotion of cultural and linguistic diversity and media pluralism.
- 1.8 In accordance with the requirements of section 8(3B) of the 2006 Act, the terms, provisions and limitations specified in the regulations must be:
- g) objectively justifiable in relation to the wireless telegraphy stations or wireless telegraphy apparatus to which they relate;
  - h) not such as to discriminate unduly against particular persons or against a particular description of persons;
  - i) proportionate to what they are intended to achieve; and
  - j) transparent in relation to what they are intended to achieve.

## Decision

- 1.9 In 2018, Ofcom made regulations to exempt low gain in-vehicle mobile repeater devices from the need for a licence under the 2006 Act.<sup>1</sup>
- 1.10 On 12 July 2019, we published a consultation document entitled “Notice of proposal to make the Wireless Telegraphy (Mobile Repeater) (Exemption) (Amendment) Regulations 2019” (the “**Consultation**”) in accordance with sections 122(4) and (5) of the 2006 Act. The Consultation contained proposals to change the technical parameters allowed for licence exempt low gain in-vehicle mobile phone repeaters (contained in the Interface Requirements 2102.2 or “**IR 2102.2**”) and a draft of the Regulations that would implement these changes.
- 1.11 Following consultation on Ofcom’s proposals and notification of the proposed interface requirements to the European Commission (in accordance with the Radio Equipment Directive<sup>2</sup> and the Technical Standards Directive<sup>3 4</sup>), Ofcom has decided to update IR 2102.2 to:

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<sup>1</sup> The Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2018 (SI 2018/399).

<sup>2</sup> Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC. See, in particular, Article 8.

<sup>3</sup> Directive (EU) 2015/1535 of the European Parliament and of the Council, laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services, 9 September 2015. See in particular, Articles 5 and 6.

<sup>4</sup> The notification is available on the EU “TRIS database” with the following notification number: 2019/344/UK (United Kingdom); see <https://ec.europa.eu/growth/tools-databases/tris/en/search/>

- k) Increase the maximum gain limits for in-vehicle mobile repeaters from 21 dB to 36 dB in relevant frequency bands above 1 GHz;
  - l) Increase the maximum gain limits for in-vehicle mobile repeaters from 15 dB to 30 dB in relevant frequency bands below 1 GHz; and
  - m) Include the 2.6 GHz FDD band in the list of licence-exempt frequency bands.
- 1.12 Ofcom has also clarified the way the maximum permitted gain is measured, which is by including any external antenna gains. This is reflected in the amendments to IR 2102.2.
- 1.13 The Regulations update the Principal Regulations by referring to the updated technical conditions set out in IR 2012.2, which are contained in the UK Interface Requirement 2102 (“**IR 2102**”), as published on 1 November 2019.<sup>5</sup> As a result, additional low gain in-vehicle mobile repeater devices will benefit from an exemption from the requirement to be licensed under section 8(1) of the 2006 Act.

## The citizen and/or consumer interest

- 1.14 Our principal duty under section 3 of the 2003 Act is to further the interests of citizens in relation to communications matters; and of consumers in relevant markets, where appropriate by promoting competition.
- 1.15 We take account of the impact of our decisions upon both citizen and consumer interests in the markets we regulate. We must secure the optimal use for wireless telegraphy of spectrum and have regard to the principle under which all regulatory activities should be targeted only at cases in which action is needed.
- 1.16 One of Ofcom’s main duties is to further the interests of citizens and consumers in the UK, and we have a specific duty to secure widespread availability of communications services. Our ambition is to achieve comprehensive mobile coverage for people right across the UK.
- 1.17 Approximately three quarters of UK roads have in-vehicle call and text coverage (when 2G, 3G and 4G combined), with 76% the UK’s A and B roads receiving coverage from an aggregate of all mobile operators. On the remaining 24% of A and B roads, the ability to make or receive a call will depend on which mobile operators have networks available in different locations or if the location is in the 2% of the UK’s A and B roads which have no mobile coverage at all (be it 2G, 3G or 4G coverage). The absence of reliable mobile coverage has an impact on the benefits of emergency services on roads, social connectedness, economic opportunities and can be inconvenient, ineffective and time-consuming for citizens and consumers.<sup>6</sup>
- 1.18 Accessing the mobile network from within a vehicle can be troublesome, particularly if that vehicle is at the edge of mobile coverage or if the car has certain features which weaken

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<sup>5</sup> Ofcom’s document of 1 November 2019 entitled [UK Interface Requirement 2102](#).

<sup>6</sup> See [Connected Nations update \(Summer 2019\)](#).

the signal. The penetration loss involved can mean that, where the mobile phone signal is weak outside the car, it falls below a usable level once inside the car.

- 1.19 A known solution to this problem is to use a device called a mobile phone repeater (sometimes also referred to as signal boosters or signal enhancers) which amplifies the network signals.
- 1.20 Prior to the authorisation of mobile phone repeater products in 2018, their use was illegal unless operated by a mobile network. The use of unauthorised repeater devices had the potential to cause harmful interference to UK mobile networks. After carrying out technical work, Ofcom developed technical parameters for low power indoor and in-vehicle repeaters that would not impact on mobile networks. In making in-vehicle repeaters part of the exemption regime, it was our intention to create a clear distinction between legally and illegally used products and to stem consumer demand for illegal repeaters.
- 1.21 After the Principal Regulations came into force we were approached by a manufacturer of in-vehicle repeaters. They requested that we make changes to the technical provisions in the regulations so that it would cover a wider range of equipment. Having considered the request and studied the technical impact that the proposed changes may have on other users of the spectrum we decided to proceed with making the changes to the Principal Regulations.
- 1.22 We believe our decision to extend the licence exemption regime and to make the Regulations to give effect to that extension will be of benefit to consumers for the following reasons:
- a) these measures concern the use of radio equipment on a licence-exempt basis, which reduces the regulatory and administrative burden on our stakeholders and helps to secure the optimal use of spectrum;
  - b) permitting the use of new low powered repeaters with increased maximum permitted gain limits will further help citizens and consumers experiencing mobile reception problems by improving coverage in vehicles;
  - c) manufacturers of low powered in-car repeaters would benefit from reduced costs as the UK provisions would be aligned to those in other European countries where these devices are already permitted, allowing them to benefit from economies of scale when manufacturing devices;
  - d) extending the exemption provisions would allow consumers to benefit from a greater range of products on the UK market, increasing supply and potentially enabling them to benefit from lower prices; and
  - e) the licence exemption is only applicable in circumstances where use of equipment is unlikely to have an adverse impact on technical quality of service and cause undue interference to other spectrum users.

## Our policy objective

- 1.23 One of Ofcom's main duties is to ensure optimal use of spectrum. Spectrum is a vital component to enable communication, improve social connectedness, provide greater sense of safety, create better economic opportunities and offer convenience to consumers.<sup>7</sup>
- 1.24 We seek, wherever possible, to reduce the regulatory burden upon our stakeholders, in this instance users of the radio spectrum. One way in which we can do this is to remove the need for spectrum users to apply for individual licences to authorise the use of radio equipment. In accordance with the 2006 Act, we aim to exempt from licensing the use of specified equipment where it is not likely that such use will cause undue interference to other legitimate users of the radio spectrum.
- 1.25 Our regulatory policy objective in this area is to facilitate the ability of consumers to improve their mobile coverage. Reliable mobile services have become essential to how people live and work across the UK, and mobile phone networks must keep pace with the growing needs for capacity and for coverage. We want to see coverage of good quality mobile services from a range of providers, wherever people live, work and travel. The Regulations give effect to that objective and complement several different initiatives Ofcom is undertaking to support improved mobile coverage in general.

## Options considered

- 1.26 The options open to Ofcom are:
- n) to make the Regulations which enable changes to the technical parameters allowed for licence exempt in-vehicle low gain mobile phone repeaters; or
  - o) to do nothing.

## Analysis of options

### Make new regulations

- 1.27 When considering the authorisation of radio equipment Ofcom can either require users of equipment to be licenced or make regulations to exempt types of equipment from licensing. Section 8(4) of the 2006 Act requires that if Ofcom is satisfied that the criteria set out in section 8(5) of the 2006 Act are met, we must make regulations to licence exempt the deployment of equipment. If the requirements of section 8(5) are not met, this does not prevent us making an exemption, but any decision would need to consider the impacts and benefits of doing so.

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<sup>7</sup> Such components are particularly relevant to mobile communications, see further [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0021/108129/jigsaw-mobile-coverage-qualitative-research.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0021/108129/jigsaw-mobile-coverage-qualitative-research.pdf)

- 1.28 On the basis of our technical analysis, we consider that the installation and use of the additional in-vehicle repeater devices allowed by the revised interface requirements and Regulations meet the conditions set out in section 8(5) of the 2006 Act. Accordingly, we are required under section 8(4) to make a licence exemption.
- 1.29 In our assessment, the likely practical impact of the Regulations will be improvements in mobile reception and coverage for consumers having access to these newer in-vehicle repeaters, without this having an adverse effect on mobile networks and other consumers. Also, consumers will be able to benefit from a wider range of devices that would be suitable to be deployed in the UK market as the technical provisions will align with those in other European markets where these devices are permitted. This is achieved by adding the 2.6 GHz band to the list of exempted frequency bands and increasing the maximum permitted gain limits for all in-vehicle mobile phone repeaters.
- 1.30 A further likely impact of the Regulations is that car manufacturers may respond to consumer demand by developing a wider range of vehicles that have installed in them in-vehicle repeaters. This could be achieved by the development of new in-vehicle repeaters or by using equipment that is already permitted in other markets that meets our new technical criteria. In particular, the new maximum permitted gain limits will help to further overcome the attenuation to radio signals that a car body and windows cause, meaning better mobile reception for consumers. In addition, the inclusion of the 2.6 GHz FDD band in the list of licence-exempt frequency bands means that manufacturers can supply equipment that includes this frequency for vehicles sold in the UK.
- 1.31 While, these changes may present added equipment or development cost to manufacturers if they wish to develop new equipment to meet the new technical parameters, the costs of any changes are likely to be offset by the benefits to manufacturers of being able to supply products which operate more efficiently, in a greater number of frequency bands and can be used in a number of European countries. We note that these changes are being introduced to allow equipment that is already available in some other European markets to be used in the UK so there should be no additional costs to these manufacturers.
- 1.32 There are likely be further knock-on effects on mobile network providers. Namely, an increase in the use of mobile services in vehicles generally and a continued reduction in the unlawful use of non-compliant in-vehicle repeaters.
- 1.33 As we noted in the impact assessment for the Principal Regulations, reducing the use of illegal repeaters was considered appropriate to minimise the risk of interference and satisfy the consumer demand for legitimate, legally compliant repeater equipment.<sup>8</sup> We expect that the Regulations will further diminish the demand for illegal in-vehicle repeaters, reducing the impact on network providers caused by interfering illegal equipment (the effect of which may be to deny their customers service). All of this will help secure optimal use of the spectrum.

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<sup>8</sup> See further [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0017/112292/Regulatory-Impact-Assessment.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0017/112292/Regulatory-Impact-Assessment.pdf)

- 1.34 Accordingly, in our view, the Regulations will have the following impacts:
- an increase in the ability of consumers to take steps to improve the mobile coverage and reception through the use of licence exempt in-vehicle repeaters;
  - where consumers use licence exempt in-vehicle repeaters, an improvement in reception and coverage will be available without deleterious effects on mobile networks and other users;
  - an increase in the range of in-vehicle repeaters that are authorised and could be supplied to the UK market; and
- a reduction in the need for consumers to resort to the purchase of repeaters who use is unauthorised and unlawful.
- 1.35 There are one-off administrative costs for Ofcom associated with making Statutory Instruments. These are low, however, both in absolute terms and compared to licensing alternatives that might require, for example, the maintenance of an ongoing administrative scheme. Moreover, the costs such as they are will also be offset by the benefits to businesses and consumers outlined above.
- 1.36 Overall therefore, Ofcom considers that making the Regulations is likely to generate a net benefit for UK citizens, consumers and businesses, or at worst would have a neutral outcome (to the extent that benefits may depend on the uptake of the new opportunities afforded by the Regulations). It is unlikely to impose costs on other users. On that basis, the effect of making the Regulations is likely to be positive.

## Do nothing

- 1.37 The alternative to making the Regulations is to do nothing.
- 1.38 This would result in citizens and consumers not being able to benefit from new low gain in-vehicle repeaters that may further improve coverage and reception along UK roads.
- 1.39 The range of equipment available to consumers and motor manufacturers for the UK market would be less than that in some other European countries. This would result in equipment manufacturers having to make equipment that is bespoke to the UK market. As they would not benefit from economies of scale from the UK aligning with other European markets, this would likely lead to increase costs to motor manufacturers and ultimately UK consumers. The higher costs of these devices may lead to the continued use of unauthorised repeater devices by consumers. These consumers might obtain better mobile coverage under these circumstances, but there would be continued negative effects on networks and other consumers overall, and they would be exposed to the risk of committing a criminal offence.
- 1.40 By not making the Regulations there would be no additional cost to Ofcom relating to making a Statutory Instrument. However, not making the Regulations would also mean that we would not be implementing the revised interface requirements that Ofcom has decided to set, with the risk of undermining regulatory certainty.

## The preferred option and decision

1.41 Ofcom's preferred option is to make the Regulations.

## Equality Impact Assessment

1.42 We have considered whether the Regulations would have a particular impact in relation to the following protected characteristics: age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex and sexual orientation. We are satisfied that the Regulations will not be detrimental to any group defined by these protected characteristics. This is because all UK consumers and citizens will have equal access to licence exempt use of repeater devices.

## Declaration

I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.

### Signed

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4 November 2019

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