



Response to Consultation and Decision on the licensing of spectrum in the 3.4 GHz band

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1. Introduction

1.1 Request for spectrum allocation

1. This Response to Consultation and Decision relates to a request made to the Isle of Man Communications Commission (“the Commission”) by BlueWave Communications Limited (“BlueWave”) for an allocation of 30 MHz of TDD-compatible spectrum in the 3.4 GHz band.
2. This request was considered in a consultation published by the Commission on 20th December 2017 (“the December 2017 consultation”) ¹, following which the Commission published its Response to Consultation and Decision on 16th March 2018 (“the March 2018 Response/Decision”). ² In the March 2018 Response/Decision the Commission noted the consultation responses received from a number of amateur radio users expressing concerns about the proposed assignment to BlueWave in the 3.4 GHz band, in light of the possible interference issues that could arise.
3. The Commission stated in its Response/Decision that it had sought the advice of Ofcom in relation to the possible interference issue but that Ofcom had not at that stage completed its analysis of the issue. As a result, in order to avoid further delay in finalising the other assignments included in the December 2017 consultation, the Commission decided to defer making a final Decision on its proposed recommendation to Ofcom in relation to BlueWave’s application for a spectrum assignment in the 3.4 GHz band until Ofcom had provided its advice on possible interference issues in the band.
4. Ofcom has now provided its advice to the Commission and as a result the Commission is now in a position to set out its Decision on BlueWave’s application for a spectrum assignment in the 3.4 GHz band.

¹ Consultation on the licensing of spectrum in the 900 MHz, 1800 MHz, 2100 MHz, 2.6 GHz and 3.4 GHz bands, Communications Commission, 20th December 2017, available at: <https://consult.gov.im/communications-commission/licensing-of-additional-spectrum-bands/>

² Response to Consultation and Decision on the licensing of spectrum in the 900 MHz, 1800 MHz, 2100 MHz, 2.6 GHz and 3.4 GHz bands, Communications Commission, 16th March 2018, available at: <https://www.iomcc.im/media/1269/spectrum-licensing-response-to-consultation-and-decision-16-march-2018.pdf>

1.2 Legal and regulatory background

5. The Commission is responsible for issuing licences for telecommunications and broadcasting services on the Island. Under the Telecommunications Act 1984 (of Tynwald) its powers include:
 - specifying the nature of the telecommunications systems and services which operators are permitted to operate and provide under the licence³; and
 - setting conditions on such operation and provision.⁴
6. Spectrum management is the responsibility of the UK Office of Communications (Ofcom). Ofcom licenses and regulates the use of radio spectrum in the Island, under the Wireless Telegraphy Act 2006 of Parliament, which is extended to the Isle of Man, with Tynwald's consent, by Order in Council. The Commission works closely with Ofcom to ensure that Isle of Man Government policies are taken into account in licensing decisions.

2.2 UK legislation relevant to spectrum licensing in the Isle of Man

7. The use of spectrum in the Isle of Man is governed by UK legislation that has been extended to the Isle of Man, as well as by international agreements between the UK and other countries on the use to which various bands of radio spectrum can be put and the avoidance of interference across borders. The licensing of spectrum, in the UK and in the Isle of Man, is carried out by Ofcom, by virtue of the powers given to it by the Wireless Telegraphy Act 2006 and the Communications Act 2003.
8. Ofcom's principal and secondary duties are in Section 3 of the Communications Act 2003 ('General duties of Ofcom'), which provides that:
 - (1) *It shall be the principal duty of OFCOM, in carrying out their functions—*
 - (a) *to further the interests of citizens in relation to communications matters;*
 - and*
 - (b) *to further the interests of consumers in relevant markets, where appropriate by promoting competition.*
 - (2) *The things which, by virtue of subsection (1), OFCOM are required to secure in the carrying out of their functions include, in particular, each of the following—*
 - (a) *the optimal use for wireless telegraphy of the electro-magnetic spectrum;*
 - (...)
9. Moreover, Section 3 of the WTA ('Duties of OFCOM when carrying out functions') further specifies Ofcom's duties as follows:
 - (1) *In carrying out their radio spectrum functions, OFCOM must have regard, in particular, to—*
 - (a) *the extent to which the electromagnetic spectrum is available for use, or further use, for wireless telegraphy;*

³ See s.5(1) and 5(4)(b) Telecommunications Act 1984.

⁴ See s.5(5) Telecommunications Act 1984.

(b) the demand for use of the spectrum for wireless telegraphy; and
(c) the demand that is likely to arise in future for the use of the spectrum for wireless telegraphy.

(2) In carrying out those functions, they must also have regard, in particular, to the desirability of promoting—

(a) the efficient management and use of the part of the electromagnetic spectrum available for wireless telegraphy;

(b) the economic and other benefits that may arise from the use of wireless telegraphy;

(c) the development of innovative services; and

(d) competition in the provision of electronic communications services.

10. For the purposes of the spectrum relevant to this Decision, the respective roles of the Commission and Ofcom in coordinating the award of spectrum licences in the Isle of Man are as follows:

- The Commission ascertains the level and nature of demand for spectrum in the specified bands. Based on this it then considers if an award process is required. Eventually, when the assessment and any award process that may be required is completed, it makes a recommendation to Ofcom in relation to issuing licences under the WTA to Isle of Man operators, specifying the spectrum bands and the allocations within these bands that should be included within such licences; and
- Ofcom issues licences for spectrum use under the WTA where it is satisfied the Commission's recommendation is consistent with its own statutory duties.

2. Request by BlueWave for spectrum in the 3.4 GHz band

11. BlueWave's application for an assignment of 30 MHz of TDD-compatible spectrum in the 3.4 GHz band was considered by the Commission in the December 2017 consultation. It was outlined in the consultation that, in conjunction with Ofcom, the Commission had identified a proposed assignment for BlueWave, i.e. the 3410 – 3440 MHz block in the 3.4 GHz band.

Summary of responses

12. A number of respondents to the consultation raised concerns about the impact of the proposed assignment to BlueWave on amateur radio users.⁵ All of these respondents expressed concern that the allocation of the 3410 – 3440 MHz block to BlueWave could result in interference being experienced by amateur radio users operating as secondary users in the adjacent 3400 – 3410 MHz block.
13. In light of the concerns expressed by the respondents to the consultation, the Commission decided to seek further advice from Ofcom on the matter and to defer a final decision on the proposed assignment to BlueWave until this advice had been received.

Advice provided by Ofcom

14. Ofcom is of the view that there is sufficient separation in frequency between the proposed band and the users below 3390 MHz to avoid any potential interference issues. It further advised that usage of the 3400 – 3410 MHz block had not constrained the release of the 3410 – 3600 MHz band in the UK and so it did not appear that any such usage would be sufficient reason not to permit the proposed assignment of the 3410 – 3440 MHz block to BlueWave. Ofcom also noted that amateur use in the 3400 – 3410 MHz block is in any case on a non-protected / non-interference basis.
15. Ofcom further advised that the alternative put forward by consultation respondents, i.e. to assign instead the 3510 – 3540 MHz block to BlueWave, could raise separate co-ordination and engineering issues, as this would involve authorising TDD-compatible use within the duplex gap between both parts of Domicilium's paired FDD-compatible assignment. In Ofcom's view it was likely that providing such an assignment to BlueWave would both cause (to Domicilium's lower FDD block) and receive (from its upper FDD block) interference. Ofcom's conclusion was that such an outcome appeared to be a less desirable option and so the Commission should proceed with its original proposal to allocate the 3410 – 3440 MHz block to BlueWave.

⁵ See the March 2018 Response/Decision, Section 2.5, for details on the respondents and the main points raised by them in their consultation submissions.

Commission's analysis

16. The Commission has given careful consideration to the concerns raised by amateur radio users in relation to the proposed assignment to BlueWave. These concerns have also been discussed with Ofcom, where the alternative of assigning BlueWave the 3510 – 3540 MHz spectrum block within the band was examined in detail. The Commission is in agreement with Ofcom's analysis as outlined above.
17. Having done so, the Commission remains of the view that the best course of action is to proceed as planned with the assignment of the 3410 – 3440 MHz block to BlueWave.
18. The alternative option, of granting BlueWave access to the 3510 – 3540 MHz block, would be likely to cause interference to another primary user in the band, i.e. Domicilium, as well as to BlueWave. Should such interference occur it would have a negative impact on the service quality expected by business and retail customers of both Domicilium and BlueWave. On balance, the Commission believes that such likely end-user harm must outweigh any concerns that may exist about possible interference issues that might be caused to secondary users of the 3400 – 3410 MHz block.
19. Furthermore, the Commission is cognisant of the fact that the band in question has been identified internationally as a key band for the future deployment of 5G services. As such it is the intention of the Commission to keep abreast of developments in this space and to keep the usage of this band under review over the short to medium term.

Commission's decision

DECISION 1: BlueWave should be granted access to 30 MHz of TDD-compatible spectrum, i.e. 3410 – 3440 MHz in the 3.4 GHz band and a recommendation to this effect should be made to Ofcom for Wireless Telegraphy Act licensing purposes.

3. Next steps

19. The Commission will recommend to Ofcom that BlueWave be granted access to 30 MHz of TDD-compatible spectrum (3410 – 3440 MHz) in the 3.4 GHz band.