Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: Licence Exempt spectrum use in the 2400 MHz band

To (Ofcom contact): Helen Charles

Name of respondent: Andy Sago

Representing (self or organisation/s): BT

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing ☑ Name/contact details/job title ☐

Whole response ☐ Organisation ☐

Part of the response ☐ If there is no separate annex, which parts?

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here. ☐

Name Andy Sago Signed (if hard copy)

Issue 1

BT's response to Ofcom's call for input on:

Licence Exempt spectrum use in the 2400 MHz band

(Issued by Ofcom on 9 May 2013)

1. INTRODUCTION

BT welcomes this opportunity to contribute to Ofcom's call for input on spectrum use by licence exempt devices in the 2400 MHz band. BT was a pioneer of UK public wireless LAN (Wi-Fi) in this band with its BT Openzone service, and its spectrum experts were active in working with Ofcom to define the necessary Interface Requirements and ETSI standards. BT Openzone is now incorporated under the BT Wi-Fi umbrella, which has more than five million hotspots across the UK and Ireland. Over the past year more than 20,000 new hotspots were added each week and over 400 million connections were made across the network. The latest figures show users' online Wi-Fi time is increasing, with minutes more than tripling in the same period. In addition to public hotspot usage, the BT Home Hub and Business Hub provided to over 6.7 million BT Retail broadband customers delivers the benefits of private Wi-Fi wireless connectivity to individual users in their homes and offices.

Whilst we acknowledge that from a regulatory standpoint licence-exempt devices in the 2400 MHz band operate on an unprotected basis that is not to say that Ofcom should not take necessary steps to minimise the likelihood that interference problems will arise. In the case of Wi-Fi the licence-exemption regulations allow this to be used for a charged-for service as well as for private use and millions of UK citizens and consumers use Wi-Fi as part of their daily lives.

If Ofcom were to allow increased disruption to Wi-Fi use this would be very damaging to consumers. End users have come to have a high expectation of service availability, and service providers equally expect minimisation of interference to the extent possible. In the light of the extensive use of Wi-Fi BT welcomes Ofcom's recognition of the importance to UK citizens and consumers of the 2400 MHz band, and we look forward to the consultation and technical work to investigate potential coexistence issues following the MoD's planned release of spectrum in the 2300 MHz band. It is important that the award of spectrum in the 2300 MHz band is done in a way that does not damage the interests of users who currently rely on and enjoy the benefits of Wi-Fi and other technologies operating on a licence-exempt basis in the adjacent band.

Having read the two reports annexed to the consultation, BT is pleased to be able to offer Ofcom the latest information on the usage of BT's Wi-Fi services. No additional services of significance have been identified that should be included in the technical studies.

2. RESPONSE TO CONSULTATION QUESTIONS

Question 1: Are there uses not covered in the market study with equipment characteristics or uses that are likely to make that use susceptible to interference from LTE?

If so, please answer the following questions for each identified additional LE use in the 2400 MHz band:

1.1 What is the type of application?
1.2 What is the nature of use? (i.e. how is it used? in what environment/s?)
1.3 What is the extent of use (please give an indication of regularity of use and number of units in use in the UK and/or expected future extent of use, if applicable).
1.4 What is the range of use? (i.e. what is the typical distance between the receiver and transmitter?)
1.5 What are the RF characteristics of the transmitter (i.e. power levels, occupied bandwidths) and what are the relevant technical standards that this product complies with?

1.6 What are the RF characteristics of the receiver? (e.g. minimum sensitivity, blocking levels, adjacent channel rejection) and could these be improved if they were found to suffer interference?
Please include details of equipment manufacturer make and model, if applicable.

BT does not operate equipment in the 2400 MHz band other than that covered in the reports.

Question 2. Do you have further information about uses covered in the reports?
If so, please answer the questions 1.1 to 1.6 as appropriate for each identified use.

BT's primary usage is for Wi-Fi wireless LAN (radio local area networks in the terminology of the WT Act). Answering the requested points in turn, the details are:

1.1 What is the type of application?	Public wireless LAN hotspots (BT Wi-Fi), and private Wi-Fi in homes and businesses.
1.2 What is the nature of use? (i.e. how is it used? in what environment/s?)	Hotspots: Outdoor coverage including from access points on lamp posts and street furniture, indoor coverage in coffee shops, hotels and other businesses, plus indoor-out coverage from businesses and homes. Private use: indoor coverage in businesses and homes.
1.3 What is the extent of use (please give an indication of regularity of use and number of units in use in the UK and/or expected future extent of use, if applicable).	400 million connections were made over the past year from more than five million hotspots in UK and Ireland. Minutes consumed have tripled in the same period and usage is anticipated to continue to increase. Additionally over 6.7 million BT Retail Broadband users have access to the BT Home Hub or BT Business Hub.
1.4 What is the range of use? (i.e. what is the typical distance between the receiver and transmitter?)	Typically 3-30m indoors or 10-150m outdoors.
1.5 What are the RF characteristics of the transmitter (i.e. power levels, occupied bandwidths) and what are the relevant technical standards that this product complies with?	Standard Wi-Fi characteristics in compliance with IEEE 802.11b, 802.11g, 802.11n and EN 300 328. 802.11n bandwidths of both 20MHz and 40 MHz. This is in line with the findings of the reports provided with the call for input.
1.6 What are the RF characteristics of the receiver? (e.g. minimum sensitivity, blocking levels, adjacent channel rejection) and could these be improved if they were found to suffer interference?	Standard Wi-Fi characteristics in compliance with IEEE 802.11b, 802.11g, 802.11n and EN 300 328. This is in line with the reports provided with the call for input. In practice sensitivity is often greatly improved over the minimum required by standards, and true values for use in interference modelling should be determined by testing. Transceiver chipsets are contained in millions of consumer devices worldwide so practically there is no scope to amend RF characteristics in the installed base.
Please include details of equipment manufacturer make and model, if applicable.	BT uses a number of suppliers and can provide this information on request. Consumer-purchased devices (laptops, smartphones etc) are outside BT's control and will come from a wide range of manufacturers.

Question 3. Do you have any further comments in relation to the report/s?

The reports do not bring out the special status enjoyed by 2400 MHz wireless LAN systems in a business context, and the covering Ofcom call for input also fails to mention this. Whilst we acknowledge that from a regulatory standpoint licence-exempt devices in the 2400 MHz band operate on an unprotected basis that is not to say that Ofcom should not take necessary steps to minimise the likelihood that interference problems will arise. In the case of Wi-Fi the licence-exemption regulations allow this to be used for a charged-for service as well as for private use and millions of UK citizens and consumers use Wi-Fi as part of their daily lives.

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