



**Fixed Wireless Access at 2 GHz – Proposal to  
amend the licence and coverage conditions of  
Zipcom**

**A consultation document**

**April 2002**

## 1. Executive Summary

- 1.1 This consultation document concerns proposals by the Government to amend the licence and coverage conditions of Zipcom's WT Act licence.
- 1.2 In 1995, the Department of Trade and Industry (DTI) and the Radiocommunications Agency (RA) issued the consultation document "Radio Fixed Access - Increasing the Choice", which dealt with the provision of Fixed Wireless Access (FWA) services in the 2 GHz and 10 GHz frequency bands. This document is located on the RA's website at [http://www.radio.gov.uk/topics/pfwa/docs/consult/fix\\_acc.htm](http://www.radio.gov.uk/topics/pfwa/docs/consult/fix_acc.htm).
- 1.3 Subsequent to this consultation and competition, FWA Wireless Telegraphy Act 1949 (WT Act) licences were offered to two companies: RadioTel (now trading as Zipcom) and BT. BT later declined to take up the offer of a licence.
- 1.4 Zipcom, which is currently licensed to provide narrowband FWA services in rural areas throughout the UK (see [Annex 2](#)), has requested that the obligations and restrictions placed on its FWA licence are relaxed and the geographical coverage is extended to allow the company to provide broadband services in the metropolitan areas of Scotland and Wales.
- 1.5 Mindful of Government objectives for Broadband services by 2005 as set out in paragraph 2.1 overleaf, the Government has reviewed the data bit rate limit placed on the current Licensee and proposes to remove the 144 kb/s bit rate limit provided the power flux density threshold level given in [Annex 1](#) is complied with. Government also proposes to amend the roll out obligations placed on the Licensee. Views are sought on the possibility that licences for FWA in the band 2070 – 2108.5 MHz paired with 2245 – 2283.5 MHz should be awarded in respect of the metropolitan areas of Scotland and Wales (see [Annex 3](#)), consistent with our obligations under UK and European law, in order that regional developments dealing with broadband service demand can be addressed.
- 1.6 This consultation document seeks views from other users of the radio spectrum for the provision of FWA services and others on the proposals to:
  - amend Zipcom's WT Act licence by removing the data bit rate restriction, subject to compliance with the relevant power flux density threshold level given in [Annex 1](#);
  - amend the roll out obligations of Zipcom's licence;
  - seek expressions of interest in an award for FWA regional licences in the band 2070 – 2108.5 MHz paired with 2245 – 2283.5 MHz covering the metropolitan areas of Scotland and Wales (see [Annex 3](#));

- 1.7 Responses to this consultation should arrive no later than **Monday 13 May 2002**. These should be sent to the RA and copied to the DTI at the following addresses:

Brian Last  
Radiocommunications Agency  
Wyndham House  
189 Marsh Wall  
London E14 9SX

Jeanne Grey  
Department of Trade & Industry  
Communications & Information  
Industries Directorate (CII)  
Room 283  
151 Buckingham Palace Road  
London SW1A 9SS

Or, alternatively, electronically to:  
[brian.last@ra.gsi.gov.uk](mailto:brian.last@ra.gsi.gov.uk)  
Or fax: 020 7211 0117

Or, alternatively, electronically to:  
[jeanne.grey@dti.gsi.gov.uk](mailto:jeanne.grey@dti.gsi.gov.uk)  
Or fax: 020 7215 1966

- 1.8 Any comments or complaints about the conduct of this consultation should be addressed to:

Julia Fraser  
Information and Publicity Manager  
Radiocommunications Agency  
9Y/14B  
Wyndham House  
189 Marsh Wall  
London E14 9SX

Or, alternatively, electronically to: [julia.fraser@ra.gsi.gov.uk](mailto:julia.fraser@ra.gsi.gov.uk)

### **Publication of responses**

- 1.9 Respondents to this consultation should note that in the interests of open government:

- Unless confidentiality is expressly requested, individual responses will be placed in the public domain in printed or electronic form, together with the names and contact details of authors. Respondents are requested to make it very clear if they wish to keep some or all of their response confidential.
- Unconditional permission to publish responses will be assumed unless the author expressly states otherwise.
- Any copyright attached to responses will be assumed to have been relinquished unless it is expressly reserved.
- The provisions of the Data Protection Act will apply to information supplied.

1.10 Any queries on the spectrum proposals outlined in this document should be referred to Brian Last at the RA and any queries on telecommunications policy should be referred to Jeanne Grey at CII.

## **2. Background**

- 2.1 The Government aims to achieve the most extensive and competitive broadband market in the G7 by 2005 with significantly increased broadband connections to schools, libraries, colleges and universities. Individuals working from home in remote rural areas are increasingly using E-mail through the Internet. Residential consumers in these areas also need affordable telephony services and the use of FWA has made it possible in some cases to reach these consumers. Frequencies in the 2 GHz band were originally intended to provide basic telephony services. However, to provide services beyond telephony, data bit rates higher than the current maximum of 144 kb/s are needed.
- 2.2 The spectrum at 2 GHz offered to Zipcom and BT was partitioned into two blocks of 2 x 42.5 MHz (2025 – 2110 MHz paired with 2200 – 2285 MHz which includes guardbands).
- 2.3 The spectrum awarded to Zipcom is 2070 – 2108.5 MHz paired with 2245 – 2283.5 MHz. This spectrum is limited to rural areas of the UK. A list of the Local Authority Areas where Zipcom are currently licensed to operate is detailed in Annex 2.
- 2.4 It is argued that changes in market conditions mean that a business case for FWA services based on the rural areas is not viable and that FWA use should be extended to the metropolitan areas of Scotland and Wales in order to support both business cases and regional developments dealing with broadband service demand. A list of possible metropolitan areas is detailed in Annex 3.
- 2.5 As a consequence of BT declining to take up the licence it was offered subsequent to the 1996 competition, the spectrum at 2028 – 2066.5 MHz paired with 2203 – 2241.5 MHz remains unused by FWA. The Government is considering whether to consult on the future use of this part of the 2 GHz band for regions in the UK that remain unlicensed. Alternative uses for this spectrum might include Ministry of Defence (MoD) and Programme Making and Special Events (PMSE).
- 2.6 Since services have not been rolled out in the band 2070 – 2108.5 MHz paired with 2245 – 2283.5 MHz to the rural areas of England and Northern Ireland (see Annex 2), the Government proposes to withdraw this spectrum from Zipcom and from FWA use and seek views on alternative uses of the spectrum in these areas through a separate public consultation.

### **3. Spectrum Use at 2 GHz**

- 3.1 Other than providing FWA services, the spectrum at 2 GHz is also used by Space Science and Space Operation Services (including those operated by the MoD) and Legacy Fixed Services Links (including Tropospheric-scatter links).
- 3.2 To ensure as far as possible that other radio services using the 2 GHz spectrum are protected, equipment must meet the relevant CEPT channel plans and also the associated standards currently being revised within ETSI STC TM4. The Government will apply the relevant power flux density threshold levels to FWA use of the 2 GHz band recommended by the International Telecommunication Union (ITU). The relevant recommendations can be found in [Annex 1](#).

### **4. Legal Considerations**

- 4.1 It is a fundamental principle of the EC Licensing Directive that licences for telecommunications services must be granted through procedures that are objective, non-discriminatory and transparent. However, Article 8.4 of the Directive permits the amendment of an existing licence granted in accordance with the Directive if there is an objective justification for doing so. It requires that notice is given of the intention to amend the licence and that interested parties are given the opportunity to express their views on the proposed amendments.
- 4.2 From a legal standpoint, the Government consider that Zipcom's request to relax the data bit rate and to change the roll out obligations in its FWA licence constitute amendments that are objectively justifiable under Article 8.4 for the following reasons:
  - the data bit rate restriction was imposed before internationally recognised technical recommendations concerning the protection of other radio services using the same frequency band were fully established. As a consequence of the international adoption of these recommendations and because the data bit rate restriction set in 1995 no longer delivers the bandwidth that residential and business customers need, the Government now believes that the data bit rate restriction can and should be lifted, provided the technical requirements of these recommendations are respected. These technical requirements can be implemented directly through an amended licence.
  - it has also become apparent that initial expectations of deploying a network in rural areas were over-optimistic, as the anticipated revenues from rural FWA cannot support the level of investment in equipment needed to service rural areas.

**Question 1 Do you agree (subject to compliance with the relevant power flux density threshold level) that Zipcom's data bit rate restriction should be removed?**



**Question 2 Do you agree that Zipcom's roll out obligations should be amended?**

- 4.3 However, any extension of the geographical coverage for FWA services to the metropolitan areas of Scotland and Wales would not be objectively justifiable as required by the Licensing Directive. In the view of the Government, this would necessitate the grant of a new licence. Therefore, to ensure clarity and transparency all interested operators should be given the opportunity to access these areas should licences become available. We therefore seek views on whether a new award of FWA licence(s) for the metropolitan areas of Scotland and Wales should take place.

**Question 3 Would you be interested in an award for FWA regional licences in the band 2070 – 2108.5 MHz paired with 2245 – 2283.5 MHz covering the metropolitan areas of Scotland and Wales?**

## **5. Summary of Questions**

- Q.1 Do you agree (subject to compliance with the relevant power flux density threshold level) that Zipcom's data bit rate restriction should be removed?
- Q.2 Do you agree that Zipcom's roll out obligation should be amended?
- Q.3 Would you be interested in an award for FWA regional licences in the band 2070 – 2108.5 MHz paired with 2245 – 2283.5 MHz covering the metropolitan areas of Scotland and Wales.

## Annex 1

### ITU Recommended Power Flux Density Threshold Level

The Threshold Level is -184 dBW/kHz for less than 0.1% of the time.

#### ITU-R Recommendations:

1. ITU-R Recommendation 622 (from the World Radiocommunication Conference, 1997).
2. ITU-R SA.364:" Preferred Frequencies and Bandwidths for manned and unmanned near-earth research satellites".
3. ITU-R SA.1019 " Preferred frequency bands and transmission directions for data relay satellite systems."
4. ITU-R F.1098 " Radio frequency channel arrangements for radio-relay systems in the 1900 - 2300 MHz band."
5. ITU-R SA.1154:"Provisions to protect the space research (SR), space operations (SO) and Earth-exploration satellite services (EES) and to facilitate sharing with the mobile service in the 2025 - 2110 MHz and 2200 - 2290MHz bands (1995)."
6. ITU-R SA.1247-1:" Technical and operational characteristics of systems in the fixed service to facilitate sharing with the space research, space operation and Earth exploration-satellite services operating in the bands 2025 - 2110 MHz and 2200 - 2290 MHz (2000)."
7. ITU-R SA.1248:" Limiting interference to satellites in the space services from the emissions of trans-horizon radio-relay systems in the bands 2025 - 2110 MHz and 2200 - 2290 MHz (1997)."
8. ITU-R SA.1273:" Power flux-density levels from the space research, space operation and earth exploration-satellite services at the surface of the earth required to protect the fixed service in the bands 2025 - 2110 MHz and 2200 - 2290 MHz (1997)."
9. ITU-R SA.1274:" Criteria for data relay satellite networks to facilitate sharing with systems in the fixed service systems operating in the band 2200 - 2290 MHz."
10. ITU-R SA.1275:" Orbital locations of data relay satellites to be protected from the emissions of fixed service systems operating in the band 2200 - 2290 MHz " (1997).

## Annex 2

List of the current Local Authority Areas for the 2 GHz WT Act licence held by Zipcom:

### **England**

Alnwick  
Berwick-on-Tweed  
Craven  
Eden  
Leominster  
Richmondshire  
South Shropshire  
Teesdale  
Tynedale  
West Devon  
West Somerset

### **Northern Ireland**

Fermanagh  
Moyle  
Omagh  
Strabane

### **Scotland**

Aberdeenshire  
Angus  
Argyll and Bute  
Dumfries and Galloway  
Highland  
Moray  
Orkney  
Perthshire and Kinross  
Scottish Borders  
Shetland  
Stirling  
Western Isles

### **Wales**

Caernarfonshire and Merionethshire  
Cardiganshire  
Powys

### **Annex 3**

List of possible Metropolitan Areas in the frequency band 2070 – 2108.5 MHz paired with 2245 – 2283.5 MHz:

#### **Scotland**

Aberdeen  
Dumfries  
Dundee  
Edinburgh  
Elgin  
Forfar  
Glasgow  
Inverness  
Perth  
Peterhead  
Stirling

#### **Wales**

Llandudno  
Aberystwyth  
Bangor  
Brecon  
Cardiff  
Swansea  
Newport  
Wrexham