



# Citizens' Band (CB) radio – Authorising Amplitude Modulation (AM) modes of operation

Permitting AM double and single side band CB radio  
in the UK

Consultation

Publication date: 7 October 2013

Closing Date for Responses: 8 November 2013



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## Section 1

# Executive summary

- 1.1 This document sets out proposals to amend current arrangements for Citizens' Band (CB) Radio in the UK to allow the use of Amplitude Modulation (AM) Double-sideband (DSB) and Single-sideband (SSB) transmission on CB radio, which we have hitherto not permitted. Specifically we propose to:
- authorise the use of AM emissions on European Conference of Postal and Telecommunications Administrations (CEPT) harmonised channels in line with European Communication Committee (ECC) Decision (11)031<sup>1</sup>; and
  - authorise such use on a licence exempt basis (in line with our authorisation approach for other modes of operation for CB).
- 1.2 This proposal follows on from work carried out in Europe. In June 2011 the Electronics Communications Committee ("ECC"), part of CEPT, published a Decision, ECC/DEC/(11)03 (the "Decision") on the harmonised use of frequencies for CB radio equipment. The Decision seeks to harmonise the technical standards and usage conditions relating to the use of frequencies for CB radio equipment in CEPT administrations. Our proposals are consistent with the Decision.
- 1.3 Should we decide to proceed with our proposals we will implement the changes by taking the following action shortly after making our decision.
- Amending the Interface Requirement (IR) IR 2027<sup>2</sup>. An IR sets out the operational conformity requirements for the use of radio and IR 2027 sets out the requirements for CB radio.
  - Updating the applicable licence exemption regulations. We are required to give at least one months notice of our intention to make proposed regulations. After this we will publish a final regulatory statement and proceed with making the regulations.
- 1.4 Allowing for these implementation measures we expect the arrangements to come into force in spring 2014.
- 1.5 The analysis presented in this document represents an Impact Assessment, as defined in section 7 of the Communications Act 2003 (the Act). Further copies may be obtained from [www.ofcom.org.uk](http://www.ofcom.org.uk) or from Ofcom at Riverside House, 2a Southwark Bridge Road, London SE1 9HA. Comments on the proposals outlined in this document are invited by **5pm 8 November 2013**.

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<sup>1</sup> <http://www.erodocdb.dk/Docs/doc98/official/pdf/ECCDEC1103.PDF>

<sup>2</sup> <http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-policy-area/spectrum-management/research-guidelines-tech-info/interface-requirements/uk2027.pdf>

We expect to release a Statement on this consultation by December 2013, having taken into account stakeholder responses to our proposals.

## Section 2

# Introduction

## Current Authorisation arrangements for CB

- 2.1 Citizens' Band (CB) Radio is primarily intended as a short range radio service generally for hobby use. It was first authorised in the UK in the early 1980s, when a Wireless Telegraphy (WT) Act licence was made available. In 2006 Ofcom made exemption regulations<sup>3</sup> which removed the need for an individual licence to install or use certain CB apparatus. These regulations contain the terms and conditions of use including a requirement that equipment operate in accordance with the technical restrictions set out in IR 2027<sup>4</sup>. Currently, only frequency and phase modulated emissions are permitted. In common with other licence-exempt uses of radio, CB equipment must not cause interference to other radio services.
- 2.2 We authorise the use of CB apparatus on two bands, a European Conference of Postal and Telecommunications Administrations (CEPT) band and a UK band. The former band has been harmonised across many parts of Europe, while the latter is available only in the UK. The available frequencies are set out in Table 1 below. The proposals detail in this consultation deals only with channels in the CEPT band.

**Table 1 - CB channels available in the UK<sup>5</sup>**

| Channel No | UK only channels (MHz) | CEPT "Harmonised" channels (MHz) |
|------------|------------------------|----------------------------------|
| 1          | 27.60125               | 26.965                           |
| 2          | 27.61125               | 26.975                           |
| 3          | 27.62125               | 26.985                           |
| 4          | 27.63125               | 27.005                           |
| 5          | 27.64125               | 27.015                           |
| 6          | 27.65125               | 27.025                           |
| 7          | 27.66125               | 27.035                           |
| 8          | 27.67125               | 27.055                           |
| 9          | 27.68125               | 27.065                           |
| 10         | 27.69125               | 27.075                           |
| 11         | 27.70125               | 27.085                           |
| 12         | 27.71125               | 27.105                           |
| 13         | 27.72125               | 27.115                           |

<sup>3</sup> [http://www.legislation.gov.uk/ukxi/2006/2994/pdfs/ukxi\\_20062994\\_en.pdf](http://www.legislation.gov.uk/ukxi/2006/2994/pdfs/ukxi_20062994_en.pdf)

<sup>4</sup> <http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-policy-area/spectrum-management/research-guidelines-tech-info/interface-requirements/uk2027.pdf>

<sup>5</sup> The frequencies indicated in this table are the centre frequencies of each channel number. The maximum operating frequency band shall be from 27.59625 MHz to 27.99625 for the UK band and 26.960 MHz to 27.410 MHz for the CEPT.

| <b>Channel No</b> | <b>UK only channels (MHz)</b> | <b>CEPT "Harmonised" channels (MHz)</b> |
|-------------------|-------------------------------|---|
| 14                | 27.73125                      | 27.125                                  |
| 15                | 27.74125                      | 27.135                                  |
| 16                | 27.75125                      | 27.155                                  |
| 17                | 27.76125                      | 27.165                                  |
| 18                | 27.77125                      | 27.175                                  |
| 19                | 27.78125                      | 27.185                                  |
| 20                | 27.79125                      | 27.205                                  |
| 21                | 27.80125                      | 27.215                                  |
| 22                | 27.81125                      | 27.225                                  |
| 23                | 27.82125                      | 27.255                                  |
| 24                | 27.83125                      | 27.235                                  |
| 25                | 27.84125                      | 27.245                                  |
| 26                | 27.85125                      | 27.265                                  |
| 27                | 27.86125                      | 27.275                                  |
| 28                | 27.87125                      | 27.285                                  |
| 29                | 27.88125                      | 27.295                                  |
| 30                | 27.89125                      | 27.305                                  |
| 31                | 27.90125                      | 27.315                                  |
| 32                | 27.91125                      | 27.325                                  |
| 33                | 27.92125                      | 27.335                                  |
| 34                | 27.93125                      | 27.345                                  |
| 35                | 27.94125                      | 27.355                                  |
| 36                | 27.95125                      | 27.365                                  |
| 37                | 27.96125                      | 27.375                                  |
| 38                | 27.97125                      | 27.385                                  |
| 39                | 27.98125                      | 27.395                                  |
| 40                | 27.99125                      | 27.405                                  |

- 2.3 CB radio frequency bands are shared by all CB users, and the available bands are also shared with other radio services. We do not specify which channel can be used by a particular user or exactly where they can operate. As long as the applicant is operating in accordance with the regulations users are free to operate anywhere in the UK within the available spectrum. Ofcom will not intervene if a CB radio user experiences interference from other authorised radio users; experience has shown, however, that users are generally able to avoid interference from other users by choosing an alternative channel from the many available.
- 2.4 It should be noted CB users share spectrum which is in a frequency band managed by the Ministry of Defence (MOD). This use is secondary to that of the MOD (the primary spectrum user) and it should be noted that CB users must be prepared to accept incoming interference caused by continuing use of this spectrum by the MOD

## Proposal to Authorise AM Modes in the UK.

2.5 This document sets out our proposals to:

- authorise the use of Amplitude Modulation (AM) emissions on CEPT harmonised channels in line with European Communication Committee (ECC) Decision (11)03<sup>6</sup> (the “Decision”);
- authorise such use on a licence exempt basis (in line with our authorisation approach for other modes of operation for CB).

2.6 In the UK transmission of AM has hitherto not been permitted due to concerns over the interference potential of this type of transmission. In view of the extensive compatibility work underpinning the development of ECC Decision ECC/DEC/(11)03 (the “Decision”) on the harmonised use of frequencies for CB radio equipment we now believe it appropriate to permit AM transmission. Section 3 to this document details our proposal in this area.

### What is licence exemption

2.7 Ofcom is responsible for authorising civil use of the radio spectrum and achieves this by granting wireless telegraphy licences under the Wireless Telegraphy Act 2006 (the “WT Act”) or by making regulations exempting users of particular equipment from the requirement to hold such a licence. Under section 8(1) of the WT Act, it is an offence to establish, install or use equipment to transmit without holding a licence granted by us unless the use of such equipment is exempted. We can exempt users from the need to hold a licence for the establishment, installation or use of wireless telegraphy equipment by making regulations under section 8(3) of the WT Act.

2.8 Under section 8(4) of the WT Act, we have to make regulations to exempt equipment if its installation or use is not likely to:

- involve undue interference with wireless telegraphy;
- have an adverse effect on technical quality of service;
- lead to inefficient use of the part of the electromagnetic spectrum available for wireless telegraphy;
- endanger safety of life;
- prejudice the promotion of social, regional or territorial cohesion; or
- prejudice the promotion of cultural and linguistic diversity and media pluralism.

2.9 In making a device exempt from licensing we specify the characteristics of the equipment that can be used. Licence-exempt devices are commonly low power/ short range devices (SRDs) or handsets that are controlled by a

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<sup>6</sup> [www.erodocdb.dk/Docs/doc98/official/pdf/ECCDEC1103.PDF](http://www.erodocdb.dk/Docs/doc98/official/pdf/ECCDEC1103.PDF)

licensed network (e.g. mobile phone handsets). Large numbers of devices are able to use the same frequencies due to their low transmitting power and limited range. By defining the maximum transmit power, along with other characteristics, the probability of them causing undue interference is low.

- 2.10 Unlike many licensed services, users of licence-exempt devices need to be aware that there are no guarantees that the spectrum will be free of interference. Devices operate on a non-interference non-protection basis. This means that no claim of protection can be made if interference is received from another authorised device or service.

## **Deciding on licence exemption proposals**

- 2.11 When appropriate we introduce measures to permit the use of a range of new technologies and applications without the need for users to obtain a licence from us. When making a decision on what may qualify for an exemption a number of factors influence whether we should go ahead and exempt, these include:

- the frequency of transmission;
- the power of transmission;
- the use of the equipment;
- the estimated number of deployments;
- the likelihood of undue inference;
- the impact on the technical quality of service; and
- the existence of relevant technical standards.

- 2.12 A key issue is a device's transmitting power. Radio signals from high-powered devices travel further, increasing the chances of interference with others using the same frequencies. If this occurs, the frequencies will become of limited use to other users in the geographic area.

- 2.13 Most of the technical studies undertaken to understand whether devices can share frequencies with one another are carried out by the CEPT. CEPT is the European regional organisation dealing with postal and telecommunications issues and presently has members from 47 countries. It is made up of representatives of the postal and telecommunications administrations of European countries including Ofcom for UK radio matters.

- 2.14 In addition to its role advising the European Commission (EC) on radio spectrum matters, CEPT produces a range of other outputs that inform the development of spectrum management across CEPT member countries. The work done in CEPT is also used by European Standardisation Organizations such as the European Telecommunications Standards Institute (ETSI) and European Committee for Electrotechnical Standardisation (CENELEC) to develop harmonised European standards for equipment. It is on the basis of much of this work that many devices can be considered for licence exemption.

## Impact assessment

- 2.15 The analysis presented in the Annex to this document represents an impact assessment, as defined in section 7 of the Act<sup>7</sup>. 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. This is reflected in section 7 of the Act, which means that generally we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public or when there is a major change in our activities. However, as a matter of policy, we are committed to carrying out and publishing impact assessments in relation to the great majority of our policy decisions. For further information about our approach to impact assessments, see the guidelines “Better policy-making: Ofcom’s approach to impact assessment”<sup>8</sup>.

## The citizen and/or consumer interest

- 2.16 Our principal duty under section 3 of the Act is to further the interests of citizens in relation to communications matters; and of consumers in relevant markets, where appropriate by promoting competition. We take account of the impact of our decisions upon both citizen and consumer interests in the markets we regulate. We must, in particular, 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.
- 2.17 In addition to section 3 we must have regard to the desirability of encouraging investment and innovation in relevant markets as well as to further the interests of citizens and consumers.

## Our policy objective

- 2.18 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. As stated in paragraph 2.2 we must exempt equipment if it meets the criteria of 8(4) of the WT Act.
- 2.19 Ofcom also has a duty to ensure the optimal use for wireless telegraphy. Part of this involves working with international administrations and bodies on regional and global spectrum allocation decisions. From time to time this may require us to change our allocation policy in order to promote optimal use of the spectrum.
- 2.20 Exemption is realised by describing the details of equipment and the parameters under which it may be used in a Statutory Instrument (secondary legislation called regulations) that exempts users of such equipment from the

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<sup>7</sup> [www.opsi.gov.uk/acts/acts2003/pdf/ukpga\\_20030021\\_en.pdf](http://www.opsi.gov.uk/acts/acts2003/pdf/ukpga_20030021_en.pdf)

<sup>8</sup> Which are on our website at <http://www.ofcom.org.uk/about/policies-and-guidelines/better-policy-making-ofcoms-approach-to-impact-assessment/>

need to hold a WT Act licence provided they comply with the terms of the regulations.

- 2.21 There are one-off administrative costs associated with making a Statutory Instrument. We considered the implementation costs to be low and offset by the potential benefits. There may be a slight reduction in spectrum management costs in certain areas.

## **Equality Impact Assessment**

- 2.22 Following an initial assessment of our policy proposals we considered that it was reasonable to assume that any impacts on consumers and citizens arising from these proposals would not differ significantly between groups or classes of UK consumers and citizens, all of whom would have access to these services, potentially at end-user prices reflective of all general input costs, including opportunity costs of spectrum used.
- 2.23 We do not consider that there is evidence to suggest that costs imposed on stakeholders, would differ significantly by these aforementioned groups of consumers and citizens relative to consumers in general. This is because one would not expect the impact of supplying these consumers and citizens to differ significantly between these groups and consumers in general.
- 2.24 Therefore we have not carried out a full Equality Impact Assessment in relation to race equality or equality schemes under the Northern Ireland and disability equality schemes. This was because we were not aware that our decision was intended (or would, in practice) have a significant differential impact on different gender or racial groups, on consumers in Northern Ireland or on disabled consumers compared to consumers in general.

## **Document Structure**

- 2.25 The document is structured as follows:
- Sections 3 and 4 outline our proposals to introduce new arrangements to authorise AM use of CB and how these will be implemented into the current regulations for licence exemption;
  - Annexes 1 – 3 explain our consultation principles and how to respond to this consultation;
  - Annex 4 sets out the consultation questions; and
  - Annex 5 copy of draft IR 2027.

## Section 3

# Authorising AM CB Transmission

3.1 As set out in Section 2 to this document, currently only frequency and phase modulated emissions are permitted by CB equipment. AM transmission has not been permitted due to concerns over interference to other radio users. In this section we explain our proposals to:

- authorise the use of Amplitude Modulation (AM) emissions on CEPT harmonised channels in line with European Communication Committee (ECC) Decision (11)03 (the “Decision”);
- authorise such use on a licence exempt basis (in line with our authorisation approach for other modes of operation for CB).

## Permitting AM Use of CB

3.2 Over the course of the last few years the ETSI have completed detailed compatibility studies (ETSI TR 102 626) on the impact of AM CB transmission on other domestic and vehicle based spectrum users. None of the testing showed any undue interference potential and found no outstanding compatibility or sharing issues. ETSI have developed new standards (EN 300 433-1 and -433-2) to harmonise the technical parameters applicable to AM on CB and these are reflected in the Decision.

3.3 The Decision looks towards harmonised use across CEPT member countries and provides a set of harmonised technical parameters. ECC decisions are not mandatory and do not cover the national decisions on authorisation arrangements for individual equipments. However, we believe there are a number of advantages in adopting a harmonised approach to the authorisation of CB. The ETSI Report estimated that 95% of equipment sales relate to mobile apparatus and only 5% is fixed. A high percentage of mobile usage is by long distance lorry drivers, many of whom cross international borders throughout Europe. A variety of different national regulations can be very confusing, as the settings on the CB equipment must be checked or changed at each border. Inevitably some equipment will not be changed resulting in illegal use and an increased risk of harmful interference.

3.4 Consequently we propose to authorise use of CB in a way that is consistent with the Decision, including permitting AM use of the CEPT frequency bands.

## Extension of current Exemption Arrangements.

3.5 As we have explained, it has not been necessary to hold a WT Act licence in order to operate CB radio equipment providing that such use is consistent with the requirements of the WT (Exemption) (Amendment) Regulations 2006.

3.6 The removal of a requirement to hold a WT Act licence, which was implemented in December 2006, has reduced the regulatory burden for both

CB radio users and Ofcom and has not led to significant interference issues in the bands. Similar arrangements also exist in other CEPT administrations and this has supported the free circulation of equipment within Europe. The technical work carried out in support of the Decision has indicated that the introduction of AM transmission would not significantly increase the risk of harmful interference. Consequently, we propose that authorisation of AM transmission is achieved through an extension of current licence exemption arrangements for CB.

## Proposed Technical Parameters of licence exemption

### Frequency bands

- 3.7 We are proposing to extend the current licensing exemption arrangements only in the CEPT harmonised channels identified in Table 2 to permit AM use in both the single and double sideband mode.

**Table 2<sup>9</sup>: Proposed frequencies for AM/SSB and AM/DSB**

| Channel No | CEPT “Harmonised” channels (MHz) | Channel No | CEPT “Harmonised” channels (MHz) |
|------------|----------------------------------|------------|----------------------------------|
| 1          | 26.965                           | 21         | 27.215                           |
| 2          | 26.975                           | 22         | 27.225                           |
| 3          | 26.985                           | 23         | 27.255                           |
| 4          | 27.005                           | 24         | 27.235                           |
| 5          | 27.015                           | 25         | 27.245                           |
| 6          | 27.025                           | 26         | 27.265                           |
| 7          | 27.035                           | 27         | 27.275                           |
| 8          | 27.055                           | 28         | 27.285                           |
| 9          | 27.065                           | 29         | 27.295                           |
| 10         | 27.075                           | 30         | 27.305                           |
| 11         | 27.085                           | 31         | 27.315                           |
| 12         | 27.105                           | 32         | 27.325                           |
| 13         | 27.115                           | 33         | 27.335                           |
| 14         | 27.125                           | 34         | 27.345                           |
| 15         | 27.135                           | 35         | 27.355                           |
| 16         | 27.155                           | 36         | 27.365                           |
| 17         | 27.165                           | 37         | 27.375                           |
| 18         | 27.175                           | 38         | 27.385                           |
| 19         | 27.185                           | 39         | 27.395                           |
| 20         | 27.205                           | 40         | 27.405                           |

- 3.8 We do not propose to make any change to arrangements to the UK channels (see Table 1), which will continue to only permit angle modulation. The reasons for this are twofold.

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<sup>9</sup> The frequencies indicated in this table are the centre frequencies of each channel number. The maximum operating frequency band shall be from 26.960 MHz to 27.410 MHz for the CEPT

- First, the Decision only relates to the CEPT channels. Consequently, the coexistence and compatibility studies do not extend to the UK channels and we cannot be sufficiently confident about the effect on other services of the use of AM/DSB/SSB on these channels and the consequent risk of interference.
  - Second, when we consulted the MoD, it was on the basis of the Decision. So the MoD agreed to the additional modes of working only on the CEPT channels. We do not think that it would be reasonable to seek to impose on the MoD to the extent of authorising the use of AM/DSB/SSB working on the UK channels nor would it contribute to harmonisation of standards, if these channels are used only in the UK and Crown Dependencies<sup>10</sup>.
- 3.9 The authorisation of FM operation on the UK channels will continue unaltered. However we have made minor amendments to the Interface Requirement IR 2027 to bring the wording of our interface requirement in line with the ECC Decision (11)03.

### **Transmit power**

- 3.10 In line with the Decision, we propose to limit the maximum effective radiated power for AM transmission on CB radio to 4 Watts (measured as a root mean square) for DSB modulation, and 12 Watts (measured as a peak envelope power) for SSB modulation.
- 3.11 Compliance with IR2027 is a condition of the exemption regulations. We are proposing to revise IR 2027 to reflect the proposed changes. A copy of the draft IR 2027 can be found in Annex 5.
- 3.12 Our proposed power limit is specified in terms of a maximum effective radiated power. This means that any gain or loss provided by transmission lines or antenna needs to be taken into account when configuring a station (particularly where a non-integral antenna is used). It is the responsibility of individual users to decide how to configure their stations in a manner that complies with the specified maximum power requirement.

### **Impact of Change**

- 3.13 As we have explained, prior to making the decision to permit AM operation in the CEPT channels we have considered the impact of the proposal could have on in band and other adjacent channel users. We believe the work underpinning the Decision provides adequate evidence that the changes are not to involve undue interference, and are otherwise consistent with the criteria for exemption set out under section 8(4) of the WT Act. We have also consulted with the primary user of the band (the MoD) who is content with the proposed changes.
- 3.14 We believe there are considerable benefits in aligning UK arrangements with other European countries. The measure remove unnecessary restriction on UK CB users and also recognise that many users cross national boundaries

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<sup>10</sup> The Crown Dependencies are Guernsey, Jersey and the Isle of man

with their equipment and the associated benefits of harmonise regulatory and technical regimes.

*Q1. Do you agree that we should authorise AM/DSB and AM/SSB working on CB in accordance with the ECC Decision (11)03?*

## Section 4

# Implementing the changes

- 4.1 Should we decide to proceed with the proposal contained within this consultation we must:
- revise IR 2027 to provide for AM/DSB and AM/SSB;
  - inform the European Commission (EC) of our proposed technical regulations in IR 2027; and
  - amend the applicable exemption regulations so that they refer to the updated version of IR 2027.

## Revising IR 2027

- 4.2 IR2027 stipulates the necessary equipment parameters for the use of Citizens' Band radio in the UK. These taken together with the 'essential requirements' detailed in Article 3.2 of The Radio Equipment and Telecommunications Terminal Equipment Directive 99/5/EC (R&TTE Directive) Directive 1999/5/EC constitute the minimum requirements for Citizens' Band radio within the UK<sup>11</sup>.
- 4.3 We propose to change IR 2027 to allow AM/DSB and AM/SSB. We have included a draft of the revised IR 2027 in Annex 5.
- 4.4 To implement the proposals set out in this document we must submit the new draft IR 2027 to the EC, to give other Member States and the EC three months to scrutinise it and to let us have any comments or a Detailed Opinion. This is a requirement of Directive 98/34/EC<sup>12</sup> (as amended). This process is to ensure that any technical regulations are consistent with the single market principles and do not act as a barrier to trade. During this three month standstill period Member States cannot implement the proposed regulations. Should we decide to proceed we intend to notify the EC shortly after we have published our decision in relation to the proposals set out in this document.

## Amendment of the licence exemption legislation

- 4.5 In order to implement the proposals detailed in this document we must also amend current exemption regulations. It is a requirement of section 122(4) and (5) of the WT Act that we give notice of our intention to make proposed regulations. The draft regulations would be subject to a further minimum one month statutory consultation, as required by the WT Act, to ensure that they correctly reflect the stated policy position. After this consultation we will publish a final regulatory statement and proceed with making the regulations.

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<sup>11</sup> R&TTE Directive was implemented in the United Kingdom (UK) on the 8 April 2000 by The Radio Equipment and Telecommunications Terminal Equipment Regulations 2000, Statutory Instrument 2000 No. 730.

<sup>12</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:204:0037:0048:en:PDF>

Should we decide to proceed with our proposals we anticipate that we shall be in a position to for the new regulations to enter force by April 2014.

## Annex 1

# Responding to this consultation

## How to respond

- A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 8 November 2013**.
- A1.2 Ofcom strongly prefers to receive responses using the online web form at <http://stakeholders.ofcom.org.uk/consultations/citizens-band-radio/howtorespond/>, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.
- A1.3 For larger consultation responses - particularly those with supporting charts, tables or other data - please email [Steven.Alexander@ofcom.org.uk](mailto:Steven.Alexander@ofcom.org.uk) attaching your response in Microsoft Word format, together with a consultation response coversheet.
- A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.
- Steven Alexander/Fraser Murrey  
3<sup>rd</sup> Floor  
Spectrum Policy Group  
Riverside House  
2A Southwark Bridge Road  
London SE1 9HA
- A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.
- A1.6 It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together at Annex 4. It would also help if you can explain why you hold your views and how Ofcom's proposals would impact on you.

## Further information

- A1.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Steven Alexander on 020 7981 3089

## Confidentiality

- A1.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, [www.ofcom.org.uk](http://www.ofcom.org.uk), ideally on receipt. If you think your response should be kept confidential, can you please

specify what part or whether all of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

- A1.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at <http://www.ofcom.org.uk/about/accoun/disclaimer/>

## Next steps

- A1.11 Following the end of the consultation period, Ofcom intends to publish a statement by December 2013.
- A1.12 Please note that you can register to receive free email Updates alerting you to the publications of relevant Ofcom documents. For more details please see: [http://www.ofcom.org.uk/static/subscribe/select\\_list.htm](http://www.ofcom.org.uk/static/subscribe/select_list.htm)

## Ofcom's consultation processes

- A1.13 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.
- A1.14 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at [consult@ofcom.org.uk](mailto:consult@ofcom.org.uk) . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.15 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Graham Howell, Secretary to the Corporation, who is Ofcom's consultation champion:

Graham Howell  
Ofcom  
Riverside House  
2a Southwark Bridge Road  
London SE1 9HA

Tel: 020 7981 3601

Email [Graham.Howell@ofcom.org.uk](mailto:Graham.Howell@ofcom.org.uk)

## Annex 2

# Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

### Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

### During the consultation

A2.3 We will be clear about who we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A2.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Ofcom's 'Consultation Champion' will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why.

### After the consultation

A2.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

## Annex 3

# Consultation response cover sheet

- A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, [www.ofcom.org.uk](http://www.ofcom.org.uk).
- A3.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.
- A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.
- A3.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at [www.ofcom.org.uk/consult/](http://www.ofcom.org.uk/consult/).
- A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

## Cover sheet for response to an Ofcom consultation

### BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

### CONFIDENTIALITY

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

|                      |                          |   |                          |
|----------------------|--------------------------|---|--------------------------|
| Nothing              | <input type="checkbox"/> | Name/contact details/job title              | <input type="checkbox"/> |
| Whole response       | <input type="checkbox"/> | Organisation                                | <input type="checkbox"/> |
| Part of the response | <input type="checkbox"/> | 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

Signed (if hard copy)

## Annex 4

# Consultation questions

*Q1. Do you agree that we should authorise AM/DSB and AM/SSB working on CB in accordance with the ECC Decision (11)03?*

# Draft IR 2027



x

## **UK Interface Requirement 2027**

UK Radio Interface Requirement 2027 for Citizens' Band (CB)  
radio for use in the Citizens' Band Radio Service

**Publication Date: TBC**

**98/34/EC Notification number: 2013/XXX/UK**

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## Section 1

### References

- 1.1 ETSI EN 300 135-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Angle-modulated Citizens Band radio equipment (CEPT PR 27 Radio Equipment); Part 1: Technical characteristics and methods of measurement.
- 1.2 ETSI EN 300 135-2 Electromagnetic compatibility and Radio spectrum Matters (ERM); Angle-modulated Citizens Band radio equipment (CEPT PR 27 Radio Equipment); Part 2: Harmonized EN covering essential requirements under article 3.2 of R&TTE Directive.
- 1.3 MPT 1382 Performance Specification: Angle-modulated 27 MHz radio equipment for use in the Citizen's Band Radio Service (Revised and Reprinted December 1997)
- 1.4 ETSI EN 300 433-1 V1.3.1 (2011-07) Electromagnetic compatibility and Radio spectrum Matters (ERM); Citizens' Band (CB) radio equipment; Part 1: Technical characteristics and methods of measurement
- 1.5 ETSI EN 300 433-2 V1.3.1 (2011-07) Electromagnetic compatibility and Radio spectrum Matters (ERM); Citizens' Band (CB) radio equipment; Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive
- 1.6 ETSI TR 102 626 V1.1.1 (2009-08) Electromagnetic compatibility and Radio spectrum Matters (ERM); System Reference Document; Citizen Band Radio
- 1.7 ECC/DEC (11)03 The harmonised used of frequencies for Citizens' Band (CB) radio equipment ( June 2011)

## Section 2

### Foreword

- 2.1 The Radio Equipment and Telecommunications Terminal Equipment Directive 99/5/EC (R&TTE Directive) was implemented in the United Kingdom (UK) on the 8 April 2000 by The Radio Equipment and Telecommunications Terminal Equipment Regulations 2000, Statutory Instrument 2000 No. 730. In accordance with Articles 4.1 and 7.2 of Directive 1999/5/EC, this UK Interface Requirement contains the requirements for the authorisation and use of Citizens' Band radio in the specified frequency bands.
- 2.2 Nothing in this UK Radio Interface Requirement shall preclude the need for equipment to comply with Directive 1999/5/EC.
- 2.3 It is required by the Wireless Telegraphy Act 1949 that no radio equipment is installed or used in the UK except under the authority of a licence granted by or otherwise exempted by regulations made by Ofcom. It is a condition of such a licence or exemption regulations as appropriate that, in order to be installed or used in the UK, the equipment must meet the minimum requirements specified in this UK Interface Requirement for the stated equipment types and for the stated frequency bands. Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Directive 1999/5/EC.
- 2.4 The requirements given in the main body of this UK Radio Interface Requirement will apply to the exemption from licensing of Citizens' Band radio.
- 2.5 This UK Radio Interface Requirement will be revised as necessary, for example to follow:
  - i) current technology developments for reasons related to the effective and appropriate use of the spectrum in particular maximising spectrum utilisation; and
  - ii) changes to the available spectrum allocated for Citizens' Band radio.
- 2.6 All UK Radio Interface Requirements notified under Directive 1998/34/EC will be published and will be made available free of charge from the Ofcom web-site at <http://stakeholders.ofcom.org.uk/spectrum/technical/interface-requirements/>

2.7 Further information on this UK Radio Interface Requirement can be obtained from the technical enquiry contact given at the back of this document.

## Section 3

### Minimum requirements for operation within the UK

- 3.1 The minimum requirements in this document are made for reasons related to the effective and appropriate use of the radio spectrum, in particular maximising spectrum utilisation.
- 3.2 This UK Radio Interface Requirement gives a high level description of how the spectrum in the UK is used for Citizens' Band radio. It does not prescribe technical interpretation of the 'essential requirements' of Directive 1999/5/EC.
- 3.3 This UK Radio Interface Requirement therefore stipulates the necessary equipment parameters for the use of Citizens' Band radio in the UK. Tables 3.1 and 3.2 contain the relevant equipment parameters. These taken together with the 'essential requirements' detailed in Article 3.2 of Directive 1999/5/EC constitute the minimum requirements for Citizens' Band radio within the UK. Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Directive 1999/5/EC.
- 3.4 The technical parameters specified in the UK Radio Interface Requirement are applied to achieve the desired level of compatibility within the Mobile service and with other radiocommunications services, whilst promoting enterprise, innovation and competition.
- 3.5 This UK Radio Interface requirement provides the necessary technical information which facilitates access to the mobile spectrum by making clear the assumptions that are made in planning the use of the mobile spectrum in the UK. It is not the intention of this UK Radio Interface Requirement to duplicate or impose any additional 'essential requirements' of the Directive 1999/5/EC on products. Any specified parameters within this document are for the purpose of identifying product options and not as a national de facto product requirement.

**Table 3.1: Minimum requirements for the use of: Citizens Band equipment operating in the 26.960-27.410 MHz and 27.59625-27.99625 MHz bands**

| Mandatory (1-9) |                              |  |
|-----------------|------------------------------|--|
| 1               | Frequency band (or bands)    | <p><b>“ EU/CEPT band”</b><br/>26.960 MHz - 27.410 MHz<br/>in accordance with Table 3.2</p> <p><b>“UK band”</b><br/>27.59625 MHz - 27.99625 MHz<br/>in accordance with Table 3.2</p>  |
| 2               | Radio service                | Citizens’ Band   |
| 3               | Application                  | Citizens Band radio communication  |
| 4               | Channelling modulation       | <p><b>“EU/CEPT band ”</b><br/>A3E (double side band amplitude modulation)<br/>J3E (single side band suppressed carrier amplitude modulation, using either USB or LSB)<br/>F3E/G3E, - (Angle modulation with appropriate Pre-emphasis and de-emphasis)<br/>F2D/G2D data transmission employing audio frequency shift keying (AFSK)</p> <p><b>“UK band ”</b><br/>F3E/G3E, - (Angle modulation with appropriate Pre-emphasis and de-emphasis)<br/>F2D/G2D data transmission employing audio frequency shift keying (AFSK)</p> |
| 5               | Maximum transmit power limit | The maximum effective radiated power for Citizens’ Band radio station shall be limited to 4 Watts for angle-modulation, 4 Watts ( measured as a root mean square) for DSB modulation, and 12 Watts ( measured as a peak envelope power) for SSB modulation   |

|                     |                                   |  |
|---------------------|-----------------------------------|--|
| 6                   | Channel occupation rules          | Transmission and reception shall take place on the same channel (single-frequency simplex mode with 10 kHz channel spacing).   |
| 7                   | Duplex type/separation            | N/A  |
| 8                   | Licensing Regime                  | Licence exempt   |
| 9                   | Additional essential requirements | N/A  |
| Informative (10-13) |                                   |  |
| 10                  | Frequency planning assumptions    | N/A  |
| 11                  | Reference                         | ETSI EN 300 135-1<br>ETSI EN 300 135-2<br>MPT 1382 Performance Specification [1.3]<br>ETSI EN 300 433-1<br>ETSI EN 300 433-2<br>ETSI TR 102 626<br>ECC Decision (11)03 |
| 12                  | Remarks                           | N/A  |
| 13                  | Notification Number               | 2013/XXX/UK  |

The frequencies indicated in table 3.2 are the centre frequencies of each channel number. The maximum operating frequency band shall be from 27.59625 MHz to 27.99625 MHz for the UK band and 26.960 MHz to 27.410 MHz for the CEPT

| <b>Channel Number</b> | <b>EU/CEPT Band Frequency (MHz)</b> | <b>UK Band Frequency (MHz)</b> |
|-----------------------|-------------------------------------|--------------------------------|
| 1                     | 26.965                              | 27.60125                       |
| 2                     | 26.975                              | 27.61125                       |
| 3                     | 26.985                              | 27.62125                       |
| 4                     | 27.005                              | 27.63125                       |
| 5                     | 27.015                              | 27.64125                       |
| 6                     | 27.025                              | 27.65125                       |
| 7                     | 27.035                              | 27.66125                       |
| 8                     | 27.055                              | 27.67125                       |
| 9                     | 27.065                              | 27.68125                       |
| 10                    | 27.075                              | 27.69125                       |
| 11                    | 27.085                              | 27.70125                       |
| 12                    | 27.105                              | 27.71125                       |
| 13                    | 27.115                              | 27.72125                       |
| 14                    | 27.125                              | 27.73125                       |
| 15                    | 27.135                              | 27.74125                       |
| 16                    | 27.155                              | 27.75125                       |
| 17                    | 27.165                              | 27.76125                       |
| 18                    | 27.175                              | 27.77125                       |
| 19                    | 27.185                              | 27.78125                       |
| 20                    | 27.205                              | 27.79125                       |
| 21                    | 27.215                              | 27.80125                       |
| 22                    | 27.225                              | 27.81125                       |
| 23                    | 27.255                              | 27.82125                       |
| 24                    | 27.235                              | 27.83125                       |
| 25                    | 27.245                              | 27.84125                       |
| 26                    | 27.265                              | 27.85125                       |
| 27                    | 27.275                              | 27.86125                       |
| 28                    | 27.285                              | 27.87125                       |
| 29                    | 27.295                              | 27.88125                       |
| 30                    | 27.305                              | 27.89125                       |
| 31                    | 27.315                              | 27.90125                       |
| 32                    | 27.325                              | 27.91125                       |
| 33                    | 27.335                              | 27.92125                       |
| 34                    | 27.345                              | 27.93125                       |
| 35                    | 27.355                              | 27.94125                       |
| 36                    | 27.365                              | 27.95125                       |
| 37                    | 27.375                              | 27.96125                       |
| 38                    | 27.385                              | 27.97125                       |
| 39                    | 27.395                              | 27.98125                       |
| 40                    | 27.405                              | 27.99125                       |

## **Section 4**

### **Additional performance parameters**

#### ***(Informative)***

It is recommended that the equipment shall give a visual indication of the channel of operation (1,2,3, etc. ....40) and the frequency band (EU/CEPT or UK) of operation.

The Citizens' Band radio service is not afforded any protection against interference from other authorised radio services.

## Section 5

### Contact details

***Ofcom, Riverside House, 2a Southwark Bridge Road, London, SE1 9HA***

- Technical enquiries to [spectrum.licensing@ofcom.org.uk](mailto:spectrum.licensing@ofcom.org.uk)
- Tel: 020 7981 3131 or 0300 123 1000
- Textphone: 020 7981 3043
- Email: [spectrum.licensing@ofcom.org.uk](mailto:spectrum.licensing@ofcom.org.uk)
- Website: <http://stakeholders.ofcom.org.uk/spectrum/information/licence-exempt-radio-use/citizens-band-radio/technical/>

## Section 6

### Document history

| <b><i>Version</i></b> | <b><i>Date</i></b> | <b><i>Changes</i></b>                              |
|-----------------------|--------------------|--|
| 1.0                   | 01 01 2001         | First Published                                    |
| 1.1                   | 01 07 2001         | Second published version                           |
| 2.0                   | 01 08 2006         | Revised version pending outcome of UK consultation |
| 3.0                   | 14 11 2006         | Removed "draft"                                    |
| 4.0                   | 26 03 2013         | Third draft version                                |