

## Q1. What future uses might this spectrum support?

The availability of this spectrum is a rare opportunity. As such, the benefits should be made to the general public, as well the business stakeholders.

1. **Amateur Radio:** The UK Amateur Radio service is allocated the 2m band from **144.000 to 146.000 MHz** as a Primary User. In comparison, the USA has an allocation from 144.000 through to 148.000 MHz. An expansion of this band by 0.5 – 1 MHz immediately above 146.000 MHz will be beneficial to the amateur radio community.
  2. **VHF Citizens' Band service:** The UK only CB Service at 934 MHz was withdrawn in 1998, with the loss of 20 channels to GSM 900 Mobile operators. This is an opportunity to re-introduce a 20 channel CB service, at a frequency range which does not have the propagation characteristics of the 27 MHz band. An allocation at VHF will allow practical antenna lengths to be used in vehicles and buildings. In comparison, ACMA (Ofcom's counterpart in Australia) has sanctioned the use of a 77 Channel "UHF CB" service at around 476 – 477 MHz.
  3. **Simple UK (Business Radio):** The business radio Simple UK licence permits 15 spot frequencies to be used at a 12.5 kHz bandwidth. The addition of more frequencies for this licence type will ease congestion.
  4. **A "personal use" radio service:** There are a number of licensable and licence-free radio services available for individuals. This include PMR446 (licence-free) and the licensable Business Radio (Simple UK), as well as CB Radio on 27 MHz and a number of low-power allocations. However, *range* offered by these services by the individual are hindered by current regulations:
    - Low Power Devices: (Such as LPD433) – Power of 10 mW is too low as to offer a good range.
    - PMR446: Power of 500 mW ERP– too low for communications, especially in built-up areas.
    - Business Radio (Simple UK) – Power of 5w ERP is better in terms of range, but base stations (antenna attached to a building) are forbidden.
    - UK/EU CB at 27 MHz: External antennas are permitted, but power levels in the UK are limited to 4w. Long antennas are needed to achieve a usable range, but installation is subject to planning constraints by local authorities. Reliable range of communication varies depending on propagation.In comparison, the FCC in the USA has authorised the General Mobile Radio Service which permits 50 watts of output power [47 CFR 95.135] and allows repeaters.
- This VHF spectrum is an opportunity to allocate a high-power, long range (20 mile plus) service for use by individuals.

## Q2: What implications might these possible future uses have for the way in which this spectrum is configured in terms of transmit powers, bandwidth and geographic coverage? For example:

- Could these possible future uses be accommodated under the existing Business Radio licence products? If so, would they need the channel widths of the existing Business Radio licence products to be increased above 25 kHz ?
- Alternatively, would they require an entirely new licence product to be developed?
- Do you think that we should allocate (at least) some of this spectrum for licence exempt use?
- If (at least a part of) this spectrum is made available for use under the existing Business Radio licence products, do you think that more spectrum should be allocated for light

licence products as against technically assigned or area defined products?

**Amateur Radio:**

The current Amateur Radio licensing regime can be used to accommodate the expansion of the 2m band. This can be allocated on a primary or secondary basis to all existing Amateur Radio licensees. Amateur radio licensees are familiar with transmit powers, bandwidth and geographic restrictions as part of the study and examinations needed to gain a licence.

**VHF Citizens' Band Service:**

A new Citizens' Band Service can be created within the existing licensing framework.

Current CB is licence-free, subject to the apparatus meeting UK Interface Requirement 2027 to be legally sold. For a CB service at VHF, UK Interface Requirement 2044 will be suitable as equipment is already available on the market which meets these criteria. As mentioned in 2.20 of "**VHF Spectrum Release in the range 143 MHz to 156 MHz Call for Input**" document, this will suit a CB service very well.

The obligation on the end-user to hold a licence *may be beneficial* on a VHF CB service using high-power levels. A registry of all users will be useful for tackling abuse. This form of licence could be integrated into the Business Radio Licence products: A VHF CB Licence could be issued on the same basis as a Business Radio *Simple UK*, *Simple Site* or *Suppliers Light* licence upon payment of a fee. The technical parameters can be stated on the license document, and this can be used by the licence holder to acquire appropriately programmed and certified equipment.

None the less, the proposed CB service should be technically suitable to provide (the end user) a usable and reliable service over long ranges throughout the UK.

**Simple UK (Business Radio):**

Additional "channels" should be allocated to the Simple UK licence for use by licence holders to ease congestion. The technical parameters could be made more generous in terms of allowed power (10 – 15w ERP instead of the current 5w) and permit base stations.

**A "personal use" radio service:**

There is no "personal use" type of radio service in the UK with a comparable parameters to that of the General Mobile Radio Service in the USA. (Mobile, base, hand-held stations and repeaters permitted) Like the **VHF Citizens' Band Service (above)**, this can be achieved with an allocation of a number of shared VHF frequencies. Unlike CB radio, this service is for users known to each other to communicate. This can also be achieved with a hybrid of parameters between the **Business Radio (Simple UK)** and **Business Radio (Suppliers Light)** licences,

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where users are expected to self-coordinate but and granted higher power and base stations / repeaters.

### **Q3: What factors should Ofcom take into account in deciding how to make this spectrum available (both in terms of the choice of release mechanism and in terms of the timing and speed of release)?**

Ofcom should consider the implications for non-institutional users who have a need for spectrum use, but cannot otherwise do so due to the current licensing framework. The individual user may not need dedicated spectrum, but enough shared access to the resources which they need to accomplish their communication needs.

### **Q4: What total bandwidth in megahertz (MHz) would you require to operate the prospective service (whether the authorisation is provided under licence or is licence exempt)? (eg. if answering 25KHz, please make clear if this is 1 x 25 kHz or 2 x 12.5 kHz)**

**Amateur Radio:**

Any extra spectrum adjoining 146.000 MHz will be greatly appreciated by the amateur radio community.

**VHF Citizen's Band Service:**

20 simplex 12.5 kHz Channels, (or 40 simplex 6.25 kHz channels if a digital mode were mandated)

**Simple UK (Business Radio):**

An additional 8 Simplex 12.5 kHz.

**A "personal use" radio service:**

13 simplex 12.5 kHz and

3 duplex 12.5 kHz.

(or half that if digital 6.25 kHz modes are used)

## **Q5:Would this bandwidth need to be contiguous?**

If so, please explain why your service requires contiguous blocks only.

If not, what would be the size of individual channels within the overall bandwidth?

**Amateur Radio:**

A contiguous block is required to provide a continuous tuning range.

**VHF Citizen's Band Service:**

A sequential series of 12.5 kHz channels would be desirable, but not essential. It will simply confine all CB traffic to a known place on the spectrum.

**Simple UK (Business Radio):**

No opinion.

**A "personal use" radio service:**

As with the proposed VHF Citizens' Band Service.

## **Q6:If you think the prospective use would be suitable for licence exemption, please indicate the transmit power levels you are likely to require**

**Amateur Radio:**

400w (maximum allowed by Full UK Amateur Radio Licence)

**VHF Citizen's Band Service:**

Base station – 10w (fed to antenna)

Mobile – 12w (fed to antenna)

Hand-held (walkie-talkie) – 5w

**A "personal use" radio service:**

Base / Mobile – 20w (fed to antenna)

Hand-held (walkie-talkie) – 5w

Repeater – 20w

## **Q7:In which geographic area are you likely to use the spectrum (eg. UK Wide, Regional, Conurbations, Rural)**

**Amateur Radio:**

UK Wide.

**VHF Citizen's Band Service:**

UK Wide.

**Simple UK (Business Radio):**

UK Wide.

**A "personal use" radio service:**

UK Wide.

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**Q8: Please give a brief description of the technology (ies) that you will be using with the spectrum that you license.**

**Amateur / Simple UK:**

No change: Technology used will be those currently permitted by the three levels of Amateur Radio licence, and Business Radio (Simple UK) licence.

**VHF Citizens' Band / A "personal use" radio service:**

There are technological opportunities in creating a VHF CB and Personal Use radio system from scratch. Technology is improved since the 20 channel 934 MHz CB service was closed to make way for GSM mobile telephones.

Digital modes will allow a more spectrally efficient service. The *twenty* analogue 12.5 kHz channels proposed for a VHF CB service will be able to accommodate *forty* 6.25 kHz channels of voice if the digital technology offered by the Land Mobile manufacturers such as Icom and Kenwood were used. A new CB service can start with 20 analogue 12.5 kHz channels, then migrate to 40 digital when the technology becomes cheaper, or start with a 20 digital channel from the outset.

Repeaters are permitted in Australia's UHF CB service, but in the UK, they are forbidden to everyone except those in Amateur Radio circles, and businesses who can afford a Technically Assigned or Area Defined Business Radio Licence. Prices have gone down to below £600+VAT in hardware, but the problem for the individual continue to be the cost of spectrum. The use of repeaters could see the opening of shared resources for all to use.

Selective Calling can be mandated in the "personal use" radio service so that users on one licence and only communicate with themselves.

**Q9: Would you require a minimum licence tenure for you to consider operating your service? If so, how long (in years) would you want this minimum licence tenure to period to be (noting that you might need to pay for the full minimum tenure period on licence issuance)?**

**Citizens' Band:**

This service will be shared between many users (be it individuals or businesses) in the UK. The current 27 MHz CB service in the UK was deregulated in 2006 and no longer requires a licence. The proposed VHF CB service could function in a similar manner (licence free), or Ofcom could collect a fee as it were, before deregulation. A fee similar to Business Radio (Simple UK) licence would be reasonable.

**A "personal use" radio service:**

Like the Citizens' Band service, this will be shared between all users in the UK. Given the high power of this radio service, and the possibility of repeaters, Ofcom ought to licence the users in case of abuse and to fulfil international obligations. In this situation, collecting a licence fee for a number of years, as in the USA GMRS model would not be unreasonable.

**Q10:**

As explained in section 2, the existing Business Radio licence products are currently made available in bandwidths of 6.25, 12.5 or 25kHz, although it would be possible to make them available in larger bandwidths where there is enough spectrum to enable this (as is the case with this newly available Mid Band VHF spectrum). In light of this, would your prospective use of this newly available Mid Band VHF spectrum:

Be possible using one of the existing Business Radio licence products in the currently available bandwidths (of 6.25, 12.5 or 25kHz)?

Be possible using one of the existing Business Radio licence products, but in a bandwidth greater than 25 kHz (but with other licence conditions remaining as now)?

**Require a new type of licence**

Require licence exemption

Don't know

This is not possible with the **Business Radio (Simple UK)** licence, unless changes were to be made of this licence type by Ofcom. With this type of licence, you effectively "get what you're given" without any flexibility.

### Q11:

If your prospective use of this newly available Mid Band VHF spectrum would be possible using one of the existing Business Radio licence products, which existing licence product would it require?

Simple Site

Simple UK

Suppliers Light

Technically Assigned

Area Defined

If your proposed use is Technically Assigned please indicate if the use will be shared or exclusive.

It will **not** be possible with any of the listed Business Radio licence products as they stand, without modification of the product itself. The closest will be to allow Suppliers Light licence holders to use the privileges on **themselves** (without time limit), rather than on their **customer(s)**. The creation of a "Personal Use" Radio Service will likely require the creation of a new licence type with its own parameters and frequency allocation to prevent upsetting those in the rental trade.

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### Q12:

Which existing Business Radio licence type do you currently hold? (Please type in product name ) Simple Site, **Simple UK**, Suppliers Light, Technically Assigned, Area Defined, Combination of the above, None, Don't know

### Q13:

Would additional spectrum allow you to consolidate existing assignments? (If so, please provide information on the assignments that you may hand back to Ofcom as a result of consolidation)

Not applicable.

### Q14:Do you have any further comments

1. Current Business Radio Licence products do not account for the need of the individual (or small business) who require access to spectrum for medium to long range communications.

2. There is a polarisation (in terms of usefulness) caused by the differences in parameters between the Simple Site, Simple UK and Suppliers Light products. A product does not exist with an in-between option which individuals and small businesses can practically use:

- Base Stations permitted (antenna attached to building)
- A selection of UK Wide shared simplex/duplex channels.
- A useful amount of power (>5 but <15 watts)

3. The Suppliers Light licence contains the ideal set of licensing parameters, but they can only be used by the licensee's customers, not the licence holder themselves!!!