

# Shared access licence application form – OfW589

## Guidance for completing this form

### Who should use this form?

You may use this form to apply, vary or surrender a Shared Access licence.

### Conditions

Under the Wireless Telegraphy Act 2006, you must have a licence issued by Ofcom before you establish or use any Shared Access equipment.

### Communication preference

The default method of communication with licensees will be electronic, therefore please provide a valid email address. All correspondence will be sent to licensees electronically only, unless the licensee has specifically opted to receive correspondence by post. Licensees who receive documents electronically will not receive hard copies in the post, and vice versa.

If you do not wish to receive documents electronically, you must opt out by ticking the box against each contact to receive correspondence by post. Please note that this is separate from the delivery of notifications by Ofcom of a change to the Permitted Channel Centre Frequency, this will always be delivered electronically to the licensee email address.

### Completing this form

When completing this application please refer to the notes and complete in dark ink in BLOCK CAPITALS.

All fields are mandatory unless stated otherwise.

### Payment

Payments must include all bank charges. If Ofcom does not receive full payment, it will return any partial payments received.

### Important

When making a new application, you are advised not to commit to the purchase of the equipment until you have received your licence documentation.

The Wireless Telegraphy (licence Charges) regulations set out the fees for licences to use equipment issued under the Wireless Telegraphy Act. Additionally, information can be found on the Ofcom website detailing how to calculate your licence fee.

### How Ofcom handles personal data

We require this information in order to carry out our spectrum licensing duties under the Wireless Telegraphy Act 2006.

Please see [Ofcom's General Privacy Statement](#) for further information about how Ofcom handles your personal information and your corresponding right.

### For help contact:

Ofcom  
FAO Spectrum Licensing  
PO Box 1285  
Warrington  
WA1 9GL

Email: [spectrum.licensing@ofcom.org.uk](mailto:spectrum.licensing@ofcom.org.uk)

Website: [www.ofcom.org.uk/manage-your-licence](http://www.ofcom.org.uk/manage-your-licence)

Phone: 020 7981 3131



# Guidance notes

If these notes do not answer your query, please contact Ofcom Spectrum Licensing using the details on page 1

To provide the very best service it is vital that you provide the most accurate information you can in this application form. If you are in any doubt or are unsure about any of the questions, please seek technical advice from your radio supplier or another technical expert.

It is also crucial to provide accurate contact information so that we can send you any licence documents successfully and contact you if required. Where possible, provide a valid email address as we can send you any letters automatically by this method.

## General information

Under the terms of the Wireless Telegraphy Act 2006, it is an offence to install or use radio apparatus, unless:

- you do so under and in accordance with a licence issued by Ofcom (the Office of Communications); or
- the apparatus is specifically exempt from licensing.

Responsibility for obtaining and paying for a licence rests with the user of the system, not with the supplier of the equipment. Due to the technical nature of some of the sections of the application form it would be prudent to complete the application with assistance from your appointed radio supplier, engineer, or technician. Submitting a licence application does not permit you to use or even install any equipment until you have been issued with a fully authorised licence from Ofcom. Also, it is the licensee's responsibility to confirm that the details in the licence are correct and accurate.

Ofcom can inspect base stations for compliance against the permitted licensing terms and conditions stated under the licence. Breaches against the terms and conditions are taken seriously and if you operate outside your terms and conditions you will invalidate your licence and be using your system unlawfully. This can lead to you being issued with a fixed penalty notice or being prosecuted in a criminal court, depending on the circumstances of the breach.

## Radio Interference

Since the operation of a new system may cause interference to existing users, your supplier may consider it necessary to carry out compatibility tests before you apply for your licence. Once installed and operating, your system must operate always within the parameters of the terms and conditions of your licence and not cause undue interference to any other wireless telegraphy equipment. If it does, you may need to stop operating until the cause of the interference has been rectified. Ofcom cannot offer any protection against interference radiated by other authorised services; however, if you do experience interference, please contact [spectrum.licensing@ofcom.org.uk](mailto:spectrum.licensing@ofcom.org.uk).

The remainder of these guidance notes provide advice on the questions in Sections B to H.

## Section B – Customer details

### Question B1a – Existing customers

If you already hold an Ofcom radio licence, you should write your customer reference number in the box provided. Your customer reference number will be quoted in licence documentation or correspondence that we have previously sent to you.

### Question B1b – Harmonising a licence

Ofcom can align invoices for similar licence products to one consolidated date. This makes invoicing and payments easier to manage.

The conditions for harmonising a licence are:

- The licence must be under an existing customer reference number;
- Must be the same licence product;
- Must have identical payment terms (e.g. 1 to 5 years);
- Must have an identical payment contact, and;
- Must be no outstanding invoice against the licence.

### Question B2 – New customers

A licence can only be issued to a legal entity (including an individual person). You should complete the appropriate option provided or if none of these applies, then provide your details under other legal entities. The declaration in Section H should also be signed. For a partnership, please give the full name of one partner and supply a list of all other partners. The main partner is also required to sign the declaration in Section H.

### Question B3 – Licensee address

If you are applying on behalf of a Limited Company, a Public Limited Company or a Registered Charity, the registered address of the organisation must be used. The licensee will receive all licensing documentation and correspondence. You **must** provide an email address which will be used by Ofcom to notify any changes in the Permitted channel Centre Frequency. This is separate to the delivery of other licensing documentation.

### Question B4 – Licence contact name and address

This can be an additional contact who should also receive licensing documentation and correspondence.

### Question B5 – Payment and billing contact

The payment (billing) contact may be different from either the licensee or licence contact.



### Question B6 – Third-party contact

If the licence is being handled by a third-party contact such as a radio supplier, then this can be provided.

## Section C – Station details

### Question C1 – For a variation or surrender, provide your existing licence number

Please specify your existing licence number here if you wish to amend or surrender your licence.

## Section D – Station details

### Questions D1 – Site Location

Each application is for 1 station/location utilising 1 band. If you require more than 1 station/location or band, please complete separate application forms. It is essential that the base station position is entered as accurately as possible so that it reflects the true location of the transmitting signal. This ensures that the predicted coverage is as accurate as possible to maximise the use of spectrum and minimise interference to other users.

Base station positions must be accurate to 1m accuracy. When submitting NGR's on the application, quoting the post code and building number that the base station is located at, may enable us to confirm the accuracy of your positional data. The base station location refers to the location of your radio base station antenna measured to 1 metre accuracy.

Please provide the information in the following format:

- Latitude/Longitude (WGS84) 51N30'28.540" 0W5'43.005"
- National Grid Reference – NGR (e.g. TQ 32284 80497)

This information can be checked using suitable GPS equipment (e.g. a Smartphone), a map or using online mapping tools. There are several online support tools that can assist you in determining the accuracy of base station location.

A suggested method to improve location accuracy could be to utilise an online mapping tool that has satellite imagery and an ability to pin reference points to reflect the antenna position. Most applications with this facility also return latitude and longitude measurements, which can either be quoted on the application or converted to NGRs.

### Questions D2 – Station name and address

The site address is the full postal address for the base station location.

## Section E – Low power only

### Question E1a (indoor) & E1b (outdoor) – Preferred choice of frequency band and bandwidth

There are four frequency bands to choose from of which you should tick just one:

- 1.8 GHz (1781.70-1785 MHz & 1876.7-1880 MHz)
- 2.3 GHz (2.39 to 2.40 GHz)
- 3.80 to 4.20 GHz
- 24.25 to 26.50 GHz (indoor only)

We are currently only accepting application in the 2.3 GHz (2.39 – 2.40 GHz) band for indoor use only.

The 1.8 GHz and 2.3 GHz bands just have a single channel available. For 1.8 GHz this is a paired 2 x 3.3 MHz channel and for 2.3 GHz this is a 10 MHz channel.

Both the 3.80 to 4.20 GHz and 24.25 to 26.50 GHz bands have bandwidth options. The specific bandwidth should be selected in question E1a or E1b.

For 3.8 to 4.2 GHz the following bandwidth are available: 10 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz and 100 MHz. For 24.25 to 26.50 GHz then the following bandwidths are available 50 MHz, 100 MHz and 200 MHz.

### Question E2 – Antenna height

For a low power system operating indoors no antenna height parameter is required as we will assume the antenna will operate at 5 metres. For a low power system operating outdoors you need to provide the antenna height. In this case the maximum antenna height is 10 metres. For guidance on how to determine the antenna height please refer to the guidance at the end of these notes.

## Section F – Medium power (rural) only

For medium power systems you must operate in an area that has been designated rural. Please refer to Technical Frequency Assignment Criteria (TFAC) in determining if your station is in a rural location.

### Question F1 – State whether equipment will be used indoor or outdoor

Tick the appropriate box from the two choices: indoor or outdoor.



### Question F2 – Preferred choice of frequency band and bandwidth

There are two frequency bands to choose from of which you should tick just one:

- 1.8 GHz (1781.70-1785 MHz & 1876.7-1880 MHz)
- 3.80 to 4.20 GHz

1.8GHz has one paired 2 x 3.3 MHz channel. 3.8 to 4.2 GHz has the following bandwidth available: 10 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz and 100 MHz

### Question F3 – Transmit power

You need to specify the transmit EIRP. This refers to the power output of your base station antenna. EIRP is the abbreviation for Effective Isotropic Radiated Power and is measured in decibel milliwatts (dBm). Please refer to the TFAC for maximum power limits.

### Question F4 – Antenna gain

You need to provide the receiver antenna gain (dBi). The permitted range is between the limits 0 to 16 dBi.

“dBi” is used to define the gain relative to an isotropic radiator and is abbreviated for “decibels” relative to an isotropic radiator.

### Question F5 – Antenna height

For an outdoor medium power system transmitting at 1.8 GHz the maximum antenna height is 10 metres. For the 3.80 to 4.20 GHz band there is no antenna height restriction.

#### Determining the antenna height

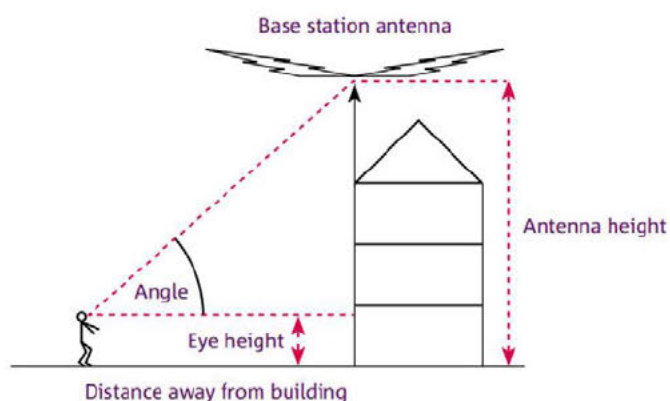
The antenna height selected will have a major effect on the coverage area for the proposed system. The antenna height is the height of the top of the antenna above ground level measured in metres (m). Please do not add in the height of the ground as our database takes care of this for you. If you are unable to source the correct height of the antenna, then a simple mathematical way of deriving an estimate of the height is provided below. If you do not know the height of the building (installation) then there are several simple ways to estimate the height of a building:

**Method 1: Taking a picture** You can take a picture of a building and include someone or something in the photo whose height is known. A metre ruler or person can work very well. Ensure that you place your known quantity as close to the building as possible and that you take the photo from a distance to minimise any vertical distortion. Then you can use a photo-editing program to estimate the height remembering to include the antenna height.

**Method 2: Floor Estimation** You can assume that each floor in a building is approximately 3 metres. Therefore, multiply the number of floors by 3 metres to get an approximated height. Add a further 3 metres for a sloped roof or zero if flat. Again, remember to include the height of the antenna.

**Method 3: Unit Estimation** Buildings are often constructed with bricks, blocks and other regular sized construction materials. Measure the height of a single unit and multiply this by the number on the face of the building for one level. When you have established this height then multiply this by the total number of levels to estimate the total building height. Again, don't forget to include the height of the antenna.

**Method 4: Using simple trigonometry** A slightly more difficult approach but arguably more accurate is using trigonometry. What you will need to know is 1) your eye height, 2) your distance from the building and 3) the angle between the ground and the top of the antenna.



The height of the antenna can be calculated using the following:

$$\text{Antenna Height} = (\tan(\text{angle}) \times \text{distance from building}) + \text{your eye height}$$

An example: assume your eye height is 1.75 metres measured from the ground, the angle to the top of the antenna is 40° and you are standing 30 metres away from the building. The height would be:

$$\text{Antenna Height} = \tan(40) \times 30 + 1.75 \text{ metres}$$

$$\text{Antenna Height} = 0.839 \times 30 + 1.75 \text{ metres}$$

$$\text{Antenna Height} = 25.17 + 1.75 \text{ metres}$$

$$\text{Antenna Height} = 26.92 \text{ metres}$$

## Section G – Intended use

Please provide details of your intended use for this spectrum.

### Additional information

[The Shared Access guidance notes](#) set out Ofcom's approach to issuing a Shared Access licence. Where these do not meet your requirements we may consider applications on a case by case basis. Please use the additional information section at the end of this form to provide any further information you would like us to consider.



## A. Application purpose

### A.1 Please tick the relevant box:

- ☒ Shared Access application - now complete sections B, D, (E or F), G and H
- ☐ Shared Access licence variation - now answer question B1a, C, and appropriate parts of sections D, (E or F), G, and complete section H
- ☐ Surrender a Shared Access licence - now answer questions B1a, C1 and complete section H

### A.2 If you require a licence for less than 12 months, then indicate both the start and end dates

Start date:

End date:

## B. Applicant details

### B.1a Customer Reference Number (for existing licensees only)

You can harmonise the renewal date of your licence with the renewal date of an existing licence providing the conditions are met in the guidance.

### B.1b To harmonise a licence please provide:

Existing licence number

Required renewal date (DD/MM/YYYY)

Now go to question B.4

### B.2 Who is the licence to be issued to?

A licence can only be issued to a legal entity (with the named person with contact details entered in question B.3).

Ofcom recognises the following types of entities and you should provide your name and answer any other details as appropriate to the legal entity:

**Individual or sole trader** (Please provide full name and go to Question B.3):

**Business partnership other than a limited company** (Please provide the full name and go to Question B.3):

**Registered Company (UK or non-UK)** (Please answer all parts and go to Question B.3):

Full name of company

Company registration number

**Limited Liability Partnership** (Please answer all parts, then go to question B.3)

Named partner who should be named on the licence

Full name of the limited liability partnership

Company registration number



Cert: FS 549403

## B.2 (continued)

### Unincorporated Association (Please answer all parts, then go to question B.3)

Named member who should be responsible for the licence

Full name of the unincorporated association

### Please specify other legal entity if not listed above (Please provide details, then go to question B.3)

Named person responsible for the licence

The full name of the legal entity (if different to above)

Company registration number (if appropriate)

## B.3 Licensee address details

- Companies should use the registered address from [Companies House](#)
- Registered charities should use the address from the [Charity Commission](#)

For all other Licensees, please use your main business address

NB: This is the person who is responsible for the licence and will receive all important documents including:

- Validation notice (licence amendment reminder)
- Notice of Proposed Revocation (where applicable)
- Revocation notice (where applicable)
- Surrender letters
- Trade documents (if no details are added in question B.7)

Trading name

Address

Telephone

Mobile

Postcode

Email

Country

☐ Please tick here only to receive documents by post instead of electronically.

## B.4 Licence contact details (where different from above)

This is an additional contact who can receive the same important documents as the licensee listed in question B.3.

Name

Address

Telephone

Mobile

Postcode

Email

Country

☐ Please tick here only to receive documents by post instead of electronically.

**B.5 Contact details for payments, billing or account queries (where different from above):**

NB: This is the person who will receive invoices and reminders when payments are due.

Please do not include payment with this application, as you will be invoiced later.

Name	<input type="text"/>	Telephone	<input type="text"/>
Address	<input type="text"/> (during COVID lockdown) <input type="text"/> <input type="text"/>	Mobile	<input type="text"/>
Postcode	<input type="text"/>	Email	<input type="text"/>
Country	<input type="text" value="England"/>		

☐ Please tick here only to receive documents by post instead of electronically.

**B.6 If you are applying via a third party (e.g. radio supplier, consultant etc.) please complete the following:**

Name	<input type="text"/>	Telephone	<input type="text"/>
Address	<input type="text"/> <input type="text"/> <input type="text"/>	Mobile	<input type="text"/>
Postcode	<input type="text"/>	Email	<input type="text"/>
Country	<input type="text"/>		

☐ Please tick here only to receive documents by post instead of electronically.

## C. Licence variation only

C.1 For a variation or surrender, please provide your existing licence number

## D. Station details

D.1 Site location (inaccurate information will lead to the application being declined):

Choose one of the following possibilities to input the data

**GB National Grid Reference Station A**

(1-metre accuracy required, e.g. TQ 32284 80497)

or

**WGS84 Latitude/Longitude Station A**

(e.g. 51:30:28.540N 0:5:43.005W)

☐ N

☐ E

☐ W

(select E or W as appropriate)

D.3 Station name and address

Name

Address

County

Postcode

## E. Technical details – Low power use

Question E.1a is specifically for indoor use only

E.1a Select your preferred choice of frequency band (tick one option only)

☐

1.8 GHz – This has one paired 2 x 3.3 MHz channel

☐

2.3 GHz – This has one 10 MHz channel

☐

3.80 GHz to 4.20 GHz and select the required bandwidth (tick one option)

☐

10 MHz

☐

20 MHz

☐

30 MHz

☐

40 MHz

☐

50 MHz

☐

60 MHz

☐

80 MHz

☐

100 MHz

☐

24.25 to 26.50 GHz and select the required bandwidth (tick one option)

☐

50 MHz

☐

100 MHz

☐

200 MHz



Questions E.1b and E.2 are specifically for outdoor use only or outdoor and indoor use

**E.1b Select your preferred choice of frequency band** (tick one option only)

- ☒ 1.8 GHz (DECT guard band) – This has one paired 2 x 3.3 MHz channel
- ☐ 3.80 to 4.20 GHz - Now select the required bandwidth (tick one option only)
- |                                 |                                 |                                 |                                  |
|---------------------------------|---------------------------------|---------------------------------|----------------------------------|
| <input type="checkbox"/> 10 MHz | <input type="checkbox"/> 20 MHz | <input type="checkbox"/> 30 MHz | <input type="checkbox"/> 40 MHz  |
| <input type="checkbox"/> 50 MHz | <input type="checkbox"/> 60 MHz | <input type="checkbox"/> 80 MHz | <input type="checkbox"/> 100 MHz |

**E.2 Provide the antenna height above ground level**

3 metres (maximum height is 10 metres)

## F. Technical details – Medium (rural) power use

Questions F.1 to F.5 should be answered for both indoor and outdoor use

☐ Please tick to confirm that the station in section D is within a rural area

**F.1 State whether the equipment will be used indoor or outdoor** (tick one option only)

- ☐ Indoor
- ☐ Outdoor

**F.2 Please indicate your preferred choice of frequency band** (tick one option only)

- ☐ 1.8 GHz (DECT guard band) – This has one paired 2 x 3.3 MHz channel
- ☐ 3.80 to 4.20 GHz - Now select the required bandwidth (tick one option only)
- |                                 |                                 |                                 |                                  |
|---------------------------------|---------------------------------|---------------------------------|----------------------------------|
| <input type="checkbox"/> 10 MHz | <input type="checkbox"/> 20 MHz | <input type="checkbox"/> 30 MHz | <input type="checkbox"/> 40 MHz  |
| <input type="checkbox"/> 50 MHz | <input type="checkbox"/> 60 MHz | <input type="checkbox"/> 80 MHz | <input type="checkbox"/> 100 MHz |

**F.3 Provide the transmit power EIRP**

dBm

**F.4 Provide the receiver antenna gain of the station in section D** (within the valid range 0 to 16 dBi)

dBi

**F.5 Provide the antenna height above ground level**

metres (Outdoor height restriction of 10 metres for 1.8 GHz)

## G. Intended Use

### G.1 Please provide details of your intended use for this spectrum

The equipment will be used to develop university cyber security laboratories on behalf of the National Cyber Security Centre (part of GCHQ) under subcontract 2021-2471 from the University of Bristol, within NCSC framework agreement 4203365.

## H. Declaration

**By signing this form, I confirm that I have read and understood all the notes. Any information provided is correct and complete to the best of my knowledge and I have the authority to make this declaration and sign this application.**

I understand and accept that:

- The body (if any) I represent will be responsible for compliance with the licence and has the control and supervision of the station;
- It may be an offence to knowingly make a false statement in support of this application and may lead to the licence being refused or revoked under the Wireless Telegraphy Act;
- Ofcom will not give anyone my information except in accordance with the law;
- Ofcom may share my information to publish a register of licences under the Wireless Telegraphy Act;
- Where I have provided an email address, I consent to receiving notifications, documents and correspondence in electronic form to that email address.

Full name

Position in organisation

Signature of applicant

Date of application (DD/MM/YYYY)

For self and partners (tick if applicable) ☐

- Partnerships must be applied for by one partner signing 'for self and partners'. A director or authorised person must sign for public limited companies, limited companies and other legal entities;
- If the number of partners exceeds the space, then for each additional partner please provide the name and signature.

Partner 1 name

Partner 1 signature

Partner 2 name

Partner 2 signature

Partner 3 name

Partner 3 signature

Partner 4 name

Partner 4 signature



## Where to send this form

**Please do not include payment with this form, as you will be invoiced at a later date.  
Ensure that you enclose all relevant certification and any attached pages as applicable.**

If needed a member of the team will contact you to clarify any requirements of this application.

When you have completed this form you can submit this application in a number of ways:

- by pressing the 'Submit form' button below (please ensure you also attached any relevant certification or attached pages);
- by emailing it as an attachment to our email address shown below, or;
- by posting it to the address shown below.

**Please use one method only**

Ofcom  
FAO Spectrum Licensing  
PO Box 1285  
Warrington  
WA1 9GL

**Allow 42 days from posting your application for receipt of your licence.**

If you need assistance, then please email  
[spectrum.licensing@ofcom.org.uk](mailto:spectrum.licensing@ofcom.org.uk).

There is also information available on our website at  
[www.ofcom.org.uk](http://www.ofcom.org.uk).

## Additional information

Please use this section to provide any further information you would like us to consider.

**Submit form**